DEFENSE TECHNICAL INFORMATION CENTER
DEFENSE VIRTUAL LIBRARY

METADATA GUIDELINES

FOR

COMPLEX DIGITAL OBJECTS

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Abstract
These guidelines contain instructions for cataloging complex digital objects as part of the Defense Technical Information Center (DTIC) Defense Virtual Library (DVL). This project was initiated by DTIC in cooperation with the Defense Advanced Research Projects Agency (DARPA) and the Corporation for National Research Initiatives (CNRI). Over 60 data elements (fields) have been described, all of which conform to the Machine Readable Cataloging (MARC) and Anglo-American Cataloging Rules, 2nd edition (AACR2) standards. MARC guidelines follow those in "MARC21 Format for Bibliographic Data." Examples for each data element and sample records are presented. This manual is also available at the Defense Virtual Library Web site, http://dvl.dtic.mil:8100/notes.html

Subject Terms
*IMAGE PROCESSING, *DIGITAL SYSTEMS, *INFORMATION PROCESSING, DEPARTMENT OF DEFENSE, DATA MANAGEMENT, BIBLIOGRAPHIES, HANDBOOKS, VIRTUAL REALITY, TECHNICAL INFORMATION CENTERS, *METADATA, MOVING IMAGES, VIDEOS, DVL(DEFENSE VIRTUAL LIBRARY), CATALOGING, DATA ELEMENTS, *DIGITAL MOVING IMAGES, MACHINE READABLE CATALOGING, DATA ELEMENTS

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GENERAL INFORMATION

General Description of Project

These guidelines contain general instructions for cataloging complex digital objects as part of the Defense Technical Information Center (DTIC) pilot Defense Virtual Library (DVL). A complex digital object is defined as a cohesive unit containing multiple parts that function interactively, use various format types (including but not limited to text, image, audio, video and executables), and may point to other objects. This project was initiated by DTIC in cooperation with the Defense Advanced Research Projects Agency (DARPA) and the Corporation for National Research Initiatives (CNRI).

The guidelines are intended for use during DVL digital object cataloging at the pilot and production level. They can also be used to evaluate the quality of bibliographic records provided by holding institutions participating in DVL in the future.[1] Metadata provided by the holding institution should be able to be mapped to the fields detailed. More than 70 fields are described in this manual, all of which conform to the Machine Readable Cataloging (MARC) format and *Anglo-American Cataloging Rules,* 2nd edition (AACR2) standards. MARC guidelines follow those in *MARC21 Format for Bibliographic Data*, a revision of earlier editions of the *USMARC Format for Bibliographic Data*.

DTIC selected Minaret software[2] for cataloging all DVL materials. Catalog records for complex digital objects and videos were created in the MARC format, using customized versions of Minaret-supplied OCLC (Online Computer Library Catalog) workforms as templates for data entry. Prior catalog records for photographs and recorded sound have been converted from Microsoft Word into Minaret.

The digital object portion of the DVL includes interactive multimedia submitted on CD-ROM from DTIC's collection. These are 'born digital' materials. Description of other born digital materials, like digital photography or moving images on DVD, follow descriptive practices used when cataloging other materials of the same format. For example, patterns for describing a digital photograph follow the patterns established for describing photographs as visual materials, not those used to describe computer files.

These guidelines serve as a generic base for cataloging digital objects. Collections may be chosen for inclusion in the DVL that present special considerations not covered. Here, cataloging information about the most common descriptive elements and their use is presented, but all future cataloging will need to be examined on a project-by-project basis

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[1] This cataloging manual uses the term 'holding institution' to refer to the repository that contains the item that was used to create the electronic file for the DVL. For DVL purposes, these 'holding institutions' include producing agencies, sponsoring agencies, suppliers, creators, archives and others.

[2] Minaret is a product of Cactus Software, Inc., 10 W. 15th St., Suite 720, New York, NY 10011

to determine any necessary changes or revisions to the guidelines. Although these guidelines focus on describing born digital objects, practices outlined are also applicable to the description of other formats, including books, visual materials, and recorded sound.

Standardized Sources

Bibliographic records created conform to rules outlined in AACR2 and other specialized electronic resource cataloging manuals (see bibliography). In particular, these guidelines follow standards outlined in *ISBD(ER): International Standard Bibliographic Description for Electronic Resources*, *Organizing Audiovisual and Electronic Resources for Access*, and *Cataloging Internet Resources: A Manual and Practical Guide.* The American Library Association's Committee on Cataloging: Description and Access (CC:DA) created a task force to review ISBD(ER) in an effort to harmonize it with AACR2.[3] The task force report contains proposed rule revisions that bring the two standards into conformance. The guidelines incorporate information from all of these sources.

Standard subject headings can be selected from the *Library of Congress Subject Headings* (LCSH), the *Thesaurus for Graphic Materials* (TGM), the *Art and Architecture Thesaurus* (AAT), and the *Defense Technical Information Center Thesaurus.* Names indexed as main or added entries match the Library of Congress Name Authority File (NAF) or are used with records that have no conflict with headings in the NAF at the time of creation.

During DVL cataloging, the Library of Congress Name Authority Files (NAF) were not available online, so it was not possible to search for authority records documenting subject headings or proper names used as access points in the bibliographic records. Instead, catalog records use access points based on searching established headings in recent Library of Congress bibliographic records. As a follow-up to this procedure, subject headings were also checked using a recent publication of LCSH. The Library of Congress anticipated that there would be online searching of authority records by the end of 2000, but at the time of this writing, an online authority database remains unavailable.

For further cataloging questions about generic cataloging practices, refer to AACR2 and MARC21.

MARC Cataloging and Format of Metadata Guidelines

The guidelines are organized according to MARC field sequence. It includes information about MARC field usage, subfields, and indicators, as well as cataloging examples.

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[3] The Task Force on the Harmonization of ISBD(ER) and AACR2 Final Report (Penultimate Draft) drafted 23 January 1999; revised 14 June 1999 with additional material is available at http://www.library.yale.edu/cataloging/aacrer/tf-harm21.htm .

Fields are represented in MARC by a 3-digit number, or tag. Fields are input in numeric tag order.[4] **Indicators** are expressed in 2 character positions, following each tag. At times, one or both of the indicator positions has not been defined in MARC, and is left blank. In other cases, the indicators contain numerical codes or a blank. Some indicators represent **display constants,** which provide system generated terms or phrases at the beginning of the field. Fields also contain one or more **subfields** that are coded with letters of the alphabet or numbers.

MARC records also contain coded information that enables automated catalog systems in searching and retrieval. This includes the **leader** (a 24 character position field with coded information about the bibliographic record); **directory** (an automated description of the tags and number of characters within a record); and **fixed field codes** (including the 006, 007, and 008 fields).

Fixed fields are limited in length and contain codes, but do not contain indicators or subfields. The number of character positions for each fixed field is established, with each position representing a data element. The *Metadata Guidelines* highlight standard codes anticipated for regular use in digital object cataloging. Options identified for each character position are listed in alphabetical or numerical order following the position entry. Additional coding options are documented in MARC21.

Cataloging **examples** are presented in plain text and in coded MARC format if they are not composed solely of codes. Whenever possible, examples are drawn from DVL catalog records. When there is no example of field use within DVL, examples have either been taken from records created in various libraries or devised.

All of the fields, subfields, and codes that are available in MARC are not listed in these guidelines. An explanation of the use of the fields, indicators, subfields, and fixed fields can be found in published MARC documentation; these guidelines highlight standard coding practice anticipated for use in DVL digital object cataloging. Other options identified within MARC may be applicable to future DVL cataloging and description.

Technical metadata

MARC has been selected as the best resource discovery tool for populating the DVL. It was implemented at the inception of the project. Although it accommodates bibliographic description, it is not capable of providing the necessary shell to contain all technical metadata related to the digital object.[5] Instructions in use of MARC fields that are appropriate for technical metadata related to long-term digital preservation are included in the guidelines (these fields include but are not limited to the 533, 583 and 856).

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[4] Inputting according to numeric order follows practice established in the CONSER Cataloging Manual, Module 31, Remote Access Computer File Serials, Part 2, section 31.15 as well as other guidelines that no longer strictly adhere to AACR2 field order.
[5] The term technical metadata is used in these guidelines to describe administrative, structural and preservation metadata.

During the moving image component of the project, an effort was made to identify essential technical metadata and map it to the MARC format so that all metadata could reside in a single system.[6] However, it appears that the MARC format as it stands in 2001 is not sufficient to accommodate the extensive metadata required for management of digital materials. DVL project managers expect to use another system to manage technical metadata that does not fit within the traditional MARC structure. It is anticipated that these data elements can be accommodated with the addition of an Extensible Markup Language (XML) Document Type Definition (DTD) that is specific to technical metadata. Exploration of digital long-term preservation has led the DVL to create preliminary guidelines identifying "Technical Metadata for the Long-Term Management of Digital Materials."[7] In cases where identified metadata is appropriate to both the MARC format and the technical metadata aspect, there may be some degree of redundancy. As systems or tools that manage technical metadata are developed, practice regarding maintenance of technical metadata will change.

Collections and items

In most cases, information is provided for item-level cataloging instead of collection-level cataloging. DVL digital object cataloging has followed cataloging practices established for sound recordings, photographs, and videorecordings, which also focus on the item. Some fields described in the guidelines are only used in collection-level cataloging. In these cases, the field description indicates that the tag applies only to collection-level records.

Acknowledgements

DVL project officers were major contributors to the content and organization of the *Metadata Guidelines*.

The guidelines use formatting, structure and terminology from AACR2, MARC21 and Library of Congress Prints and Photographs Division in-house data dictionaries. Other sources include: *Organizing Audiovisual and Electronic Resources for Access* (Hsieh-Yee), *ISBD(ER): International Standard Bibliographic Description for Electronic Resources*, *Cataloging Internet Resources: A Manual and Practical Guide* (Olson), and the Library of Congress *Draft Interim Guidelines for Cataloging Electronic Resources*.

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[6] "Technical Metadata Essential to Preservation and Management of Digital Material" was included in the 10/11/2000 version of the *Metadata Guidelines for Moving Images.*
[7] Technical metadata documentation is no longer contained with the *Metadata Guidelines.* The "Technical Metadata for the Long-Term Management of Digital Materials: Preliminary Guidelines" will be available in the near future on the Project Notes page of the DVL web site at http://dvl.dtic.mil.

MARC FIELD GUIDELINES

LEADER

MARC Tag (Field Name):

Leader

MARC	Definition (OCLC code)	Codes	Descriptions
/00-/04	Logical record length		5 character number recording the length of the record, generally system-supplied
/05	Record Status (RecStat:)	n	New
		c	Corrected, revised
/06	Type of record (Type:)	m	Computer file
/07	Bibliographic level (Blvl:)	m	Monograph/item
/08	Type of control (Ctrl:)	/	Blank, no specified type
/09	Character coding scheme	/	Blank, MARC-8
/10	Indicator count	2	Number of positions used for indicators
/11	Subfield code count	2	Number of positions used for subfields
/12-/16	Base address of data		5 character number recording the location of the first variable control field in the record, generally system-supplied
/17	Encoding level (Elvl:)	7	Minimal level
/18	Descriptive cataloging form (Desc:)	a	AACR2
/19	Linked record requirement	/	Blank
/20	Length of the length of field	4	
/21	Length of the starting character position	5	
/22	Length of the implementation defined portion	0	
/23	Undefined	0	Undefined

Indicators:

Indicator codes and subfield codes are not defined for this field. Data elements are defined by their position.

Position/Spacing:

This field does not end with a mark of punctuation.

Default values:

Note that fixed field character positions begin with position zero (0), not one (1). Most of the characters in this field are system generated and can be defaulted into the record. The code in position /07 may vary from record to record in future implementations. For the DVL, the /07 position has been defaulted to m (monograph/item). This may change in future cataloging to represent subunits, collections, and monographic component part (codes d, c and a) as necessary.

Data Conventions/Comments:

The leader field is a fixed-length field of 24 characters that defines the parameters of the bibliographic record. For the /06 character position, most DVL digital objects are anticipated to fall into the 'computer file' category for the type of record. This category includes computer data, multimedia files, and online services. If the type of electronic resource falls into another category (like moving image, sound, document, or graphic), even though it is a digital file, that code takes precedence over the computer file coding. See MARC21 for a complete list of coding options.

Examples:

Note: Plain text examples not provided for coded fields.

LEADER: 00000ngm//22000007a/4500

001
CONTROL NUMBER

MARC Tag (Field Name):

001   Control number   System-generated control number

Indicators:

Indicator codes and subfield codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Data Conventions/Comments:

This field contains a unique control number (usually system-generated). The prefix
"DTIC" is being used at the start of all DVL control numbers. A six-digit control number
is being created with the use of leading zeros when generating the number. The DVL
will not add a suffix code to identify specific collections in this field (for example, adding
"/CM" to represent the Carnegie-Mellon collection), but may choose to add a project
code to the 985 field in the future.

Examples:

DTIC-000001

001   DTIC-000001

005
DATE AND TIME OF LATEST TRANSACTION

MARC Tag (Field Name):

005   Date and time of latest transaction

Indicators:

Indicator codes and subfield codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Data Conventions/Comments:

This is a field generated by the system at the moment of the latest record transaction. The field specifies the date and time that the record was most recently revised, according to the pattern yyyymmdd (4 positions for year, 2 for month, 2 for day) and hhmmss.f (2 positions for hour, 2 for minute, 2 for seconds, and 2 for fractions of a second, including the decimal point).

Examples:

Note: Plain text examples not provided for coded fields.

005 // 19990717101010.0
Represents: July 17, 1999, 10:10:10 p.m.

006
FIXED-LENGTH DATA ELEMENTS--ADDITIONAL MATERIAL CHARACTERISTICS

MARC Tag (Field Name):

006   Fixed-length data elements—Additional material characteristics

Coding for the /00 position for <u>computer files</u> is 'm.' This is an 18-character position field.

MARC	Definition (OCLC codes)	Codes	Descriptions
/00	Form of material	m	Computer file
/01-/04	Undefined	/	Blank
/05	Target audience	/	Blank; not specified
/06-/08	Undefined	/	Blank
/09	Type of computer file	d	Document
		g	Game
		h	Sounds
		i	Interactive multimedia
		j	Online system or service
		m	Combination
/10	Undefined	/	Blank
/11	Government publication	/	Blank, not a gov. pub.
		f	Federal/national
		u	Unknown
		z	Other
		|	No attempt to code
/12-/17	Undefined	/	Blank

Indicators:

Indicator codes and subfield codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Default values:

Some of the characters in this field are constant and can be defaulted into the record.

Data Conventions/Comments:

Note that fixed field character positions begin with position zero (0), not one (1). The 006 field is a fixed-length field that describes characteristics of additional materials. Types of material are represented by codes. These codes correspond to the /18-/34 positions in the 008 field. This field can be used to record electronic aspects for items that are not coded in the Leader /06 as computer files. Optionally, the field can also be used to code multiple formats.

Examples:

Note: Plain text examples not provided for coded fields.

006 m//////i/f//////
Represents: computer file, interactive multimedia, federal government publication

007
PHYSICAL DESCRIPTION FIXED FIELD

MARC Tag (Field Name):

007   Physical description fixed field

Note: This field includes coding information for computer files.

Coding for the /00 position for <u>computer files</u> is 'c.' This is a 14-character position field. See MARC 21 for additional options.

MARC	Definition (OCLC codes)	Codes	Descriptions
/00	Category of material (COM:)	c	Computer file
/01	Specific material designation (SMD:)	o	Optical disc
		r	Remote
		u	Unspecified
/02	Undefined	/	Blank
/03	Color (CL:)	b	Black-and-white
		c	Multicolored
/04	Dimensions (DIM:)		See MARC 21 for options
		g	4 ¾ in. or 12 cm.
		n	N/A
/05	Sound (SND:)	/	No sound (silent); blank
		a	Sound
		u	Unknown
/06-/08	Image bit depth (IMBD:)	001-999	Exact bit depth (001=1 bit)
/09	File formats (NFF:)	a	One file format
		m	Multiple file formats
/10	Quality assurance targets (QAT:)	a	Absent
		n	Not applicable
		p	Present
/11	Antecedent/source (SRC:)	a	File reproduced from original
		c	File reproduced from computer file
		d	File reproduced from an intermediate (not microform)
/12	Level of compression (COMP:)	a	Uncompressed
		b	Lossless
		d	Lossy
		m	Mixed
/13	Reformatting quality (REFQ:)	a	Access
		p	Preservation
		u	Unknown

Use | (pipe) for codes /01 through /13 to indicate that no attempt was made to code the position/s.

007

Indicators:

Indicator codes and subfield codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Default values:

Some of the characters in this field are constant and can be defaulted into the record.

Data Conventions/Comments:

Note that fixed field character positions begin with position zero (0), not one (1). The 007
field is a physical description field. Types of materials are represented by codes.
Use | (pipe) to indicate that no attempt was made to code any position after the /00.
Another option is to code 'zm' in the 007/00-/01 to indicate that the field is unspecified.

This is a repeatable field that could be used in the DVL to code different physical formats
represented by the bibliographical records, so that the same record could convey
information about multiple characteristics of the described material.

Code /12, level of compression for most complex digital objects is mixed (code m); code
specific level only if a single file format is included in the bibliographic record. Level of
compression for audio and video materials is non-reversible and lossy (code d).

Examples:

Note: Plain text examples not provided for coded fields.

007 co/cga032mpcma
*Represents: computer file, optical disc, color,4 ¾ in.,sound, 32 image bit depth value,
multiple file formats, quality assurance targets present, file reproduced from computer
file, mixed compression level, access reformatting quality*

008
FIXED LENGTH DATA ELEMENTS

MARC Tag (Field Name):

008   Fixed length data elements

Coding for <u>computer files</u>.

MARC	Definitions (OCLC codes)	Codes	Descriptions
/00-/05	Date entered on file (Entrd:)		System-generated
/06	Type of date (Dtst:)	s	Single date
		e	Detailed date
		q	Questionable date
		n	Unknown date
		i	Inclusive dates
/07-/10	Date 1 (Dates:)		4-digit start date
/11-/14	Date 2		4-digit end date
/15-/17	Place of production (Ctry:)	xxu	United States
		xx/	Unknown
		For other countries, see code list.	
/18-/21	Undefined		
/22	Target audience (Audn:)	/	Not specified; blank.
/23-/25	Undefined		
/26	Type of computer file	d	Document
		g	Game
		h	Sound
		i	Interactive multimedia
		j	Online system or service
		m	Combination
/27	Undefined		
/28	Government publication (Gpub:)	/	Not a gov't pub.; blank.
		f	Federal/national
		u	Unknown
		z	Other
/29-34	Undefined		
/35-/37	Language (Lang:)	/	No language; blank.
		eng	English
		und	Undetermined
		For other languages, see code list.	
/38	Modified record (Rec:)	/	Not modified; blank.
/39	Cataloging source (Srce:)	d	Other

Use | (pipe) for codes /18 through /39 to indicate that no attempt was made to code the position/s.

Indicators:

Indicator codes and subfield codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Default values:

Some of the characters in this field are system-generated and can be defaulted into the record.

Data Conventions/Comments:

The 008 field contains coded information about the nature of the record and its special aspects. **This field is not repeatable.** Types of materials are represented by codes. The format for coding computer files is provided here. This field describes properties of the primary material being described; the 006 field can be used in addition to the 008 to represent characteristics of additional materials, including multiple formats.

Note that fixed field character positions begin with position zero (0), not one (1). This field contains 40 characters.

Refer to the MARC21 code list at http://lcweb.loc.gov/marc for additional country codes to enter in /15-17 or additional language codes to enter in /35-37.

Examples:

Note: Plain text examples not provided for coded fields.

008 000501e20000401xxu////////i/f//////eng/d
*Represents: record created 1 May 2000, exact date of item 1 Apr. 2000, U.S. production,
interactive multimedia computer file, target audience not specified, federal government
publication, English language, other cataloging source*

010
LIBRARY OF CONGRESS CONTROL NUMBER

MARC Tag (Field Name):

010   LC control number   a   LCCN

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation. Information is separated with a slash. Prefixes are entered in lowercase, while suffixes are entered in uppercase.

Data Conventions/Comments:

This field is exclusively for use with published materials when the Library of Congress has assigned a unique number for the item. This field is rarely used with electronic material. Information in this field is taken from the 001 field of the LC bibliographic record, and is used to refer to the original source of cataloging information in copy cataloging.

Examples:

00529730

010 // Øa00529730

024
OTHER STANDARD IDENTIFIER

MARC Tag (Field Name):

024	Other standard identifier		a	Number or code
			d	Additional codes
			z	Invalid numbers

Indicators:	First	Type of number or code	1	Universal Product Code
	Second	Difference indicator	Blank	No information provided

Punctuation/Spacing:

Enter UPC code without internal hyphens or spaces. This field does not end with a mark of punctuation.

Data Conventions/Comments:

This field is exclusively for use with published materials when a standardized identification number is available. The Universal Product Code (UPC) is a 12-digit code.

Examples:

251518851012

024 1/ Øa251518851012
Represents: UPC code

028
PUBLISHER NUMBER

MARC Tag (Field Name):

028	Publisher number	a	Publisher number
		b	Source

Indicators: First   Type of number   5   Other publisher number

                       Second   Note/added entry   0   No note, no added entry

Punctuation/Spacing:

This field does not end with a mark of punctuation. Transcribe publisher numbers as they appear, including all spaces, hyphens, and other punctuation marks. Separate the first and last numbers of a sequence with a dash.

Data Conventions/Comments:

This field is exclusively for use with published materials when a publisher number is available. It generally contains numbers used in published sound recordings, videorecordings, or in other music material (including issue numbers, matrix numbers, plate numbers and other videorecording numbers, which can be identified in the first indicator coding). This field is repeatable for multiple numbers.

This field may not be used with digital objects and is a candidate for deletion.

Examples:

QC-9876 Fun Digital Games

028 50 ØaQC9876ØbFun Digital Games
Data in this example is fabricated.

033
DATE/TIME AND PLACE OF AN EVENT

MARC Tag (Field Name):

033   Date/time and place of event   a   Formatted date/time

Indicators: First   Type of date   Blank   No date information
                                           0   Single date
                                           1   Multiple single dates
                                           2   Range of dates

             Second   Type of event   Blank   No information provided
                                           0   Capture
                                           1   Broadcast
                                           2   Finding

Punctuation/Spacing:

Use a hyphen for any unknown digits in the first eight characters of the coded string. This
field does not end with a mark of punctuation.

Data Conventions/Comments:

This field contains coded information about the date and time of the event, formatted as
yyyymmddhhmm+/-hhmm (representing Time Differential Factor information). The first
eight character positions yyyymmdd (4 positions for year, 2 for month and 2 for day) are
mandatory if this field is used to convey date and time information. The next 9 character
positions represent time (as hour and minute) and Time Differential Factor information.
These positions are not anticipated to be necessary in DVL cataloging. Use of this field
has not been implemented in the DVL to date.

Coded information used in this field is also entered as a note in the 518 field (Date/time
and place of event).

Examples:

1945----

19900228

033 0/ Øa1945----

033 0/ Øa19900228

035
SYSTEM CONTROL NUMBER

MARC Tag (Field Name):

035   System control number   a   Number

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field does not have an ending mark of punctuation unless one is present as part of the data.

Data Conventions/Comments:

The field contains the identification number designed by DTIC for the DVL. DVL digital object control numbers begin with the prefix 'CX.' This identification number also serves as the Handle for the digital object and is used as the Uniform Resource Identifier (in field 856, subfield u).

Examples:

CXADM001018

035 // ØaCXADM001018

037
SOURCE OF ACQUISITION (ORDER NUMBER)

MARC Tag (Field Name):

037	Source of acquisition	a	Stock number
		b	Source of number
		c	Terms of availability

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field does not have an ending mark of punctuation unless one is present as part of the data.

Data Conventions/Comments:

This field contains acquisition information for ordering copies of CD-ROMS or other computer files. It includes the order number (or other identifying number), source information, and a description of the type of reproduction available or its price. This field records identification numbers that specifically relate to the reproduction copy, not necessarily to the original version of the computer file.

Subfield b contains the code defining the source of the reproduction number. The codes for organizations are maintained at the Library of Congress. MARC Code Lists: Organizations can be accessed at http://lcweb.loc.gov/marc/organizations/. The organizational code for DTIC is **ViFbDTIC.**

DTIC policy is to input all DTIC ADA numbers in the 037 field without any punctuation, including the use of hyphens and spaces.

Examples:

ADM001018 ViFbDTIC (CD-ROM)

037 // ØaADM001018ØbViFbDTICØc(CD-ROM)

040
CATALOGING SOURCE

MARC Tag (Field Name):

040	Cataloging source	a	Original agency
		d	Modifying agency
		e	Description conventions

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Data Conventions/Comments:

This field is exclusively for use with published materials when a cataloging record is being copied. Since the DVL has not had occasion to implement copy cataloging, this field has not been used to date. It contains the code defining the cataloging source that created the original record. The codes for organizations are maintained at the Library of Congress. MARC Code Lists: Organizations can be accessed at http://lcweb.loc.gov/marc/organizations/ .

The organizational code for DTIC is **ViFbDTIC**.

The field also contains information about the descriptive conventions used in cataloging. For example, the subfield e code representing *Graphic Materials* is gihc, and the code for *Archives, Personal Papers and Manuscripts* is appm.

Examples:

DLC ViFbDTIC gihc

040 // ØaDLCØdViFbDTICØegihc
Represents: cataloging produced and input by the Library of Congress, modified by DTIC, using Graphic Materials conventions

082
DEWEY DECIMAL CALL NUMBER

MARC Tag (Field Name):

082   Dewey Decimal Call No.   a   Classification no.
                                                 b   Item no.

Indicators: First   Type of edition   0   Full
                                               1   Abridged

               Second   Source of call no. Blank   No information provided
                                               0   Assigned by LC
                                               4   Assigned by agency other than LC

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Data Conventions/Comments:

This field is for use with items that have a Dewey Decimal call number assigned to them either by the Library of Congress or other agencies. The DVL has not had occasion to input Dewey Decimal number information to date.

Examples:

333.7

082 10 Øa333.7

088
REPORT NUMBER

MARC Tag (Field Name):

088   Report Number   a   Report number

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Data Conventions/Comments:

This field is for report numbers that are not Standard Technical Report Numbers (STRN). Report numbers are not usually included in DVL bibliographic records. They are used in cases where no other identification number associated with the report exists. The DVL system control number (035 field) does not provide an identification number that associates it with the holding institution's numbering system.

Examples:

CSP 98-1005

088   ØaCSP 98-1005

099
CALL NUMBER

MARC Tag (Field Name):

099   Local Call Number   a   Local call no.

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation.

Data Conventions/Comments:

This field contains the identification number supplied by the holding institution as the call number. This identification number is the number that the holding institution associates with the digital object. A local call number is not required when describing computer files.

Examples:

BOR14

AD-M001 018

099 // ØaBOR14

099 // ØaAD-M001 018

100
MAIN ENTRY: PERSONAL NAME

MARC Tag (Field Name):

100	Main Entry: Personal Name		a	Personal name
			b	Numeration
			c	Titles
			q	Fuller form of name
			d	Dates
			e	Relator term

Indicators:	First	Type of name	0	Forename
			1	Surname
			3	Family name
	Second	Undefined	Blank	

Note: Use the first indicator 0 (forename) for names to be formatted in direct order. Use the first indicator 1 (surname) for names to be formatted in inverted order, or names without a forename. Use the first indicator 1 (family name) for names that refer to a group.

Punctuation/Spacing:

Headings are entered exactly as they appear in the name authority file. If the heading contains initials, there is a space entered between them (e.g., Marsh, A. B., and not Marsh, A.B.). This field ends with a period or other mark of punctuation. If an open life date is used in the record, do not use a comma before entering the relator term and do not end with a period.

Data Conventions/Comments:

This field contains the name of the person responsible for the intellectual/artistic content of the material. If more than one individual is responsible, use this field for the person with primary responsibility and use an Added Entry (7xx) to list other responsible parties. Search the Library of Congress Name Authority File (NAF) for the proper form of this name, and enter the name exactly as it appears. A relator term can be added to designate the person's role in creation.

Relator terms that may be used in the DVL include the following: author, compiler, contractor, designer, distributor, editor, metadata contact, programmer, and sponsor. See

definitions provided for each relator term in the AMIA AMIM Draft Revision, section CAP.0D1. Do not add a relator term if the role in creation is unclear.[8]

There is only one main entry field used in each record, so a determination must be made about primary responsibility in selecting a Personal Name, Corporate Name, or Meeting Name. Other responsible agents can be included in the Added Entry fields (7xx). If the main entry name is not found in NAF, based on information available it can either be included in this field or recorded in a general note.

Most digital objects in the DVL are anticipated to have main entry under title rather than under a personal name.

Examples:

The guidelines for this field do not currently include any examples.

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[8] DVL uses the subfield e to clearly name the relationship between the name and the work. Another option is to use subfield 4 with relator codes like aut (author), dsr (designer), and prg (programmer). A code list of relator terms is maintained by the Library of Congress and is available at http://lcweb.loc.gov/marc.

110
MAIN ENTRY: CORPORATE NAME

MARC Tag (Field Name):

110	Main Entry: Corporate Name		a	Corporate name
			b	Subordinate units
			e	Relator term

Indicators:	First	Type of name	0	Inverted name
			1	Jurisdiction name
			2	Name in direct order
	Second	Undefined	Blank	

Punctuation/Spacing:

Headings are entered exactly as they appear in the name authority file. If the heading
contains initials, there is no space entered between them (e.g., W.B. Smith and Co., and
not W. B. Smith and Co.). This field ends with a period or other mark of punctuation.

Data Conventions/Comments:

This field contains the name of the corporate body chiefly responsible for the intellectual
content of the material. If more than one creator is responsible, use this field for the
corporate body with primary responsibility and use an Added Entry (7xx) to list other
responsible parties. Search the Library of Congress Name Authority File (NAF) for the
proper form of this name, and enter the name exactly as it appears. A relator term can be
added to designate the corporate role in creation.

Relator terms for groups that may be used in the DVL include the following: author,
compiler, contractor, designer, distributor, editor, metadata contact, programmer, and
sponsor. See definitions provided for each relator term in the AMIA AMIM Draft
Revision, section CAP.0D1. Do not add a relator term if the role in creation is unclear.[9]

There is only one main entry field used in each record, so a determination must be made
about primary responsibility in selecting a Personal Name, Corporate Name, or Meeting
Name. If the main entry name is not found in NAF, based on the information available it
can either be included in this field or recorded in the general note.

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[9] DVL uses the subfield e to clearly name the relationship between the name and the work. Another option
is to use subfield 4 with relator codes like aut (author), dsr (designer), and prg (programmer). A code list of
relator terms is maintained by the Library of Congress and is available at http://lcweb.loc.gov/marc.

110

For names not found in NAF, which do not conflict with NAF files, the name of the corporate body can be entered here or recorded in a general note field.

Most digital objects in the DVL are anticipated to have main entry under title rather than under a corporate name.

Examples:

University of California, Santa Barbara, sponsor.

United States. Defense Science Board.

110 2   ØaUniversity of California, Santa Barbara,Øesponsor.

110 1   ØaUnited States.ØbDefense Science Board.

111
MAIN ENTRY: MEETING NAME

MARC Tag (Field Name):

111	Main Entry: Meeting Name	a	Meeting name
		n	Number of meeting
		d	Date of meeting
		c	Location of meeting
		e	Subordinate unit

Indicators:	First	Type of name	0	Inverted name
			1	Jurisdiction name
			2	Name in direct order
	Second	Undefined	Blank	

Punctuation/Spacing:

Headings are entered exactly as they appear in the name authority file. This field ends with a period or other mark of punctuation.

Data Conventions/Comments:

This field contains the name of the meeting chiefly responsible for the digital object, for example digitized conference proceedings. Search the Library of Congress Name Authority File (NAF) for the proper form of this name, and enter the name exactly as it appears. There is only one main entry field used in each record, so a determination must be made about primary responsibility in selecting a Personal Name, Corporate Name, or Meeting Name. Other responsible agents can be included in the Added Entry fields (7xx).

Examples:

World's Columbian Exposition (1893 : Chicago, Ill.)

111 2/ ØaWorld's Columbian Exposition Ød(1893 :ØcChicago, Ill.)

130
MAIN ENTRY: UNIFORM TITLE

MARC Tag (Field Name):

130   Main Entry: Uniform Title   a   Uniform title

Indicators: First   Nonfiling characters   0-9

                     Second   Undefined   Blank

Note: The first indicator is for nonfiling characters. This number can range from 0 to 9, based on the number of characters in the initial article/s to ignore (for example, if a title begins with 'The,' nonfiling characters would be 4, representing 3 characters of the word and the additional space before the next word).

Punctuation/Spacing:

Headings are entered exactly as they appear in the name authority file. This field ends with a period or other mark of punctuation.

Data Conventions/Comments: for anonymous works

This field contains a uniform title used as a main entry. Examples of the use of this field are for anonymous classic titles or for names of radio or television programs, motion pictures, videorecordings, treaties and intergovernmental agreements as well as serial titles.

Use the 130 field for a uniform title as the main entry, and use the 240 field (uniform title) to associate the uniform title with a main entry.

Examples:

Three little pigs.

130 0/ ØaThree little pigs.

240
UNIFORM TITLE

MARC Tag (Field Name):

240   Uniform title   a   Uniform title

Indicators: First   Not printed or displayed   0

                         Second   Nonfiling characters   0-9

Note: The second indicator is for nonfiling characters. This number can range from 0 to 9, based on the number of characters in the initial article/s to ignore (for example, if a title begins with 'The,' nonfiling characters would be 4, representing 3 characters of the word and the additional space before the next word).

Punctuation/Spacing:

This field does not end with a mark of punctuation unless one appears as part of the title, or it is required to end an abbreviation or initial.

Data Conventions/Comments:

This field is only used when there is also a 1xx main entry field. Use the 130 field for a uniform title as the main entry, and use the 240 field (uniform title) to associate the uniform title with a main entry (1XX). This field is used in addition to the 245 (Title) field, not instead of it.

A work that has appeared with various titles can be explained with the addition of a uniform title along with the title in the 245. Uniform titles can be found by searching the Library of Congress Name Authority File (NAF) for the proper form of the title, and entering the title exactly as it appears. This field is not anticipated to be used with regularity in describing digital objects.

Examples:

The guidelines for this field do not currently include any examples.

245
TITLE

MARC Tag (Field Name):

245	Title		a	Title
			b	Remainder of title
			c	Remainder of transcription
			h	Medium
			n	Number of part
			p	Name of part

Indicators: First   No main entry (1xx)   0
                                     Main entry (1xx)   1

                     Second   Nonfiling characters   0-9

Note: The second indicator is for nonfiling characters. This number can range from 0 to 9, based on the number of characters in the initial article/s to ignore (for example, if a title begins with 'The,' nonfiling characters would be 4, representing 3 characters of the word and the additional space before the next word).

Punctuation/Spacing:

This field ends with a period. Enclose devised titles in brackets. Precede other title information with 'space, colon, space.' Precede the statement of responsibility with a 'space, slash, space.' Precede each statement of responsibility with a space, semicolon, space. The general material designation (GMD) is enclosed in brackets.

Generally, a comma or dashes can be substituted for other forms of punctuation (like a colon, slash, or equal sign) that appear in the title proper. Replace ellipsis or brackets with a dash or parentheses.

The field begins with subfields a (then subfield p if used) and h, followed by the subfields b, c, and n when used.

Data Conventions/Comments:

This field contains title information. Titles are to be based on the original title associated with the digital object (on the title screen, opening slide, 'readme' file, disc exterior or on associated material like the container or labels) and transcribed as found. Title information should be taken from the primary source of information. For digital objects, the chief source of information is taken directly from the primary source (i.e. title screen or frame), main menu or accompanying materials like containers and labels. If the title is not on the title screen and appears in more than one source within the file, use the source

with the most complete information as the primary source. **Always include a general note (500 field) stating the source of title information.** Variations in title, including those found on accompanying forms (like DTIC 530 and SF298) can be recorded in the 246 (variant title) field. Titles entered on accompanying forms should be used as the title proper only if no other title information is found on the primary source.

Bracketed information can be added to transcribed titles to clarify information or record inaccuracies. Misspelled words can be followed by [sic] or by the abbreviation "i.e." followed by a clarification (for example, "USAFHRA [i.e. United States Air Force Historical Research Agency]"). Abbreviated words in a transcribed title that are readily apparent need not be clarified by a bracketed clarification (for example, use of bldg. to represent building).

The cataloger creates devised titles if no title appears on any primary documentation. The cataloger may choose to use information from secondary sources like reference books in devising a title when the primary documentation available is too scant to be useful or cannot be interpreted, or the cataloger can describe the content of the file or files. Patterns for devising titles may be created on a project-by-project basis. Enter all devised titles in brackets. When devising a title, it may not be necessary to also create a summary note (520); instead the title usually can contain the same information that would be placed in the summary note. Be as descriptive as possible when devising titles.

Information about responsible agents can be transcribed as found in the subfield Øc (Remainder of transcription). Responsible agents listed here are those responsible for file content. The statement can include writers, programmers, graphic artists, animators, and principal investigators. Information about secondary contributors to the file can be recorded in notes or added entries. If the area of responsibility is known, but is not on the primary source of information, the descriptive phrase can be included in brackets (for example, using [sponsor] prior to naming the sponsoring agent.

Select either the general material designation (GMD) term 'computer file,' 'electronic resource,' or 'interactive multimedia' to represent digital objects, and enclose it in brackets. *AACR2* only permits the use of the GMD 'computer file' at this time, while the *ISBD(ER)* recommends the use of the GMD 'electronic resource.' There is currently a recommendation that AACR adopt the use of electronic resource instead of computer file. *Cataloging Internet Resources* mentions that the ALA guidelines allow use of the GMD 'interactive multimedia.' DVL use of these terms can be evaluated as records for various formats are intermingled and displayed together.[10]

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[10] There is interest at DTIC in revising the standardized GMD terms (see AACR2, rule 1.1C1), and entering other terminology to represent newer formats instead**.**

Examples:

Achieving information superiority [interactive multimedia] : a presentation from the 1999 Defense Science Board.

Workshop on "Dynamics in quantum structures far from equilibrium" [interactive multimedia] : 11, 12 July 1997, UC Santa Barbara.

245 10 ØaAchieving information superiorityØh[interactive multimedia] :Øba presentation from the 1999 Defense Science Board.

245 10 ØaWorkshop on "Dynamics in quantum structures far from equilibrium"Øh[interactive multimedia] :Øb11, 12 July 1997, UC Santa Barbara.

246
VARIANT TITLE

MARC Tag (Field Name):

246   Variant title   a   Title
                                                  b   Remainder of title
                                                  i   Display text

Indicators: First   No note, added entry   3

                 Second   Type of title   Blank   None specified

Punctuation/Spacing:

This field does not end with a mark of punctuation unless the ending word of the field
contains a mark of punctuation.

Data Conventions/Comments:

This field contains varying or alternative forms of the title that appear on the material. It
is a repeatable field. Use this field in addition to the title (in the 245 field) only if it adds
to the identification of the entire object beyond the title. Use the 740 field for titles of
parts. Computer file title variations may be found on sources like the help screen,
container, label, header or title bar in the Web browser.

The second indicator in this field can contain codes ranging from 0 through 8, which
represent the type of varying title being identified. See MARC21 for a complete list of
these options. To record other title variations for computer files, begin the field with the
subfield i (Display text). This subfield contains a description of the source of the title
when 2nd indicator descriptions are not appropriate. When used, subfield i precedes
subfield a. Record information about the source of a variant title within the 246 field;
source of title proper (245 field) is recorded in the 500 field.

Examples:

Achieving information superiority [interactive multimedia] : a presentation from the 1999 Defense Science Board.
Title from disc surface: The Defense Science Board application scenarios
Title from title screen of presentation.

Workshop on "Dynamics in quantum structures far from equilibrium" [interactive multimedia] : 11, 12 July 1997, UC Santa Barbara.
Title from report documentation form: Dynamics in Quantum Structures Far from Equilibrium (CD-ROM)

Title on container:
Title from title screen

Title on disc surface: Air Force Government-Wide Purchase Cardholder Training
Title from title screen of opening page.

245 00 ØaAchieving information superiorityØh[interactive multimedia] :Øca presentation from the 1999 Defense Science Board.
246 3/ ØiTitle from disc surface: ØaThe Defense Science Board application scenarios
500 // ØaTitle from title screen of presentation.

245 10 ØaWorkshop on "Dynamics in quantum structures far from equilibrium"Øh[interactive multimedia] :Øb11, 12 July 1997, UC Santa Barbara.
246 3/ ØiTitle from report documentation form: ØaDynamics in Quantum Structures Far from Equilibrium (CD-ROM)
500 // ØaTitle from title screen of opening page.

246 3/ ØiTitle on container:Øa
500 // ØaTitle from title screen.

246 3/ ØiTitle on disc surface: ØaAir Force Government-Wide Purchase Cardholder Training
500 // ØaTitle from title screen of opening page.

250
EDITION STATEMENT

MARC Tag (Field Name):

250   Edition statement   a   Edition statement

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field ends with a period.

Data Conventions/Comments:

This field is used to record the edition or version of the digital object. Other terminology
used to indicate edition includes level, release, and update. This field is used for
statements transcribed directly from the digital object, not only in accompanying
documentation. For instances where edition information is devised by the cataloger, use
the 562 field.

Examples:

[version] 1.0.

2nd American edition.

250 // Øa[version] 1.0.

250 // Øa2nd American edition.

256
COMPUTER FILE CHARACTERISTICS

<u>Field Name (MARC Tag):</u>

256   Computer file characteristics   a   Characteristics

<u>Indicators:</u>

Indicator codes are not defined for this field.

<u>Punctuation/Spacing:</u>

A period or other ending mark of punctuation is always at the end of this field. The number and size of files is entered in parentheses and separated by a 'space, colon, space.'

<u>Data Conventions/Comments:</u>

This field describes computer file characteristics, namely file type, number of files, and size. It can also contain information like the quantity of records in a database. This field is to be used only when cataloging computer files specifically. When cataloging remote electronic resources that do not have a physical carrier, use this field to describe contents and do not use the 300 field (physical description). When cataloging material on CD-ROM (or other electronic files with physical characteristics), this field can be used along with the 300 field.

AACR2 includes the following designations for characteristics: computer data, computer program/s, and computer data and program/s, while *ISBD(ER)* has a substantially longer list including such terms as computer interactive multimedia, computer text data, and computer online services.

It is DVL practice not to include the parenthetical statement of the number of files or file size in the 256 field, but the option to include this information is available for future cataloging. When this data is included, it should be drawn from the File Directory for the digital object, not from the Properties information. Data describing electronic resources file and size is also included in the 856 (electronic location) field. Record file size in the 856 field since it may not be constant based on transmission and compression.

DVL lists the file size of electronic resources in kilobytes (KB) or megabytes (MB), not in bytes. This practice differs from that observed in online resources through LC's National Digital Library Project and American Memory Project.

Examples:

Computer interactive multimedia.
Computer data (2 files : 16 MB .mpg and 16 MB .rm).
Computer interactive multimedia (81 files : 281 MB).

256 // ØaComputer interactive multimedia.
256 // ØaComputer data (2 files : 16MB .mpg and 16 MB .rm).
256 // ØaComputer interactive multimedia (81 files : 281 MB).

Defense Technical Information Center   19 June 2001

260
PUBLICATION (DATE)

MARC Tag (Field Name):

260	Publication (date)	a	Place of publication, distribution
		b	Publisher, distributor
		c	Date of publication, distribution, execution
		e	Place of manufacture
		f	Manufacturer

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field ends with a period or other ending mark of punctuation (square bracket or closing parentheses). Precede the name of the distributor with a 'space, colon, space.' Precede the date with a comma.

Data Conventions/Comments:

Publication information and information about the date of execution, issue, release, or production is contained in this field. The primary source to be used is the material itself or the catalog record. Secondary sources can be used to determine the date if it is not provided. A general note (field 500) can be used to state source of date if not taken from the material. Field 518 (date/time and place of event) can be used to record additional information about a recorded event. Unpublished material uses only the date of execution field (subfield c). Include month and day when that information is available. Subfields a, b, e and f are used for publication information.

When there is no information available about the distribution and release of the material, or if the material is unpublished, include only date information in subfield c. Optionally, when cataloging published material where no place of publication is listed, enter the location as: [United States] if probable location; [United States?] if possible location; or [S.l.] (i.e. sine loco) if location is completely unknown. If the publisher or distributor name is not known, and the item has been published, enter [s.n.] (i.e. sine nomine).

ISBD(ER) states that all electronic resources that are accessed remotely can be considered as published.

The name and location of the publisher is entered in subfields a and b. This publisher information can be followed with the name and location of the distributor, including the Defense Technical Information Center (also in repeated subfields a and b). If the publisher is not known, but the distributor is identified, provide only distributor

information. Use the designation [distributor] following the name to qualify the role of the agency. Additionally, other information about the role of the publisher or distributor can be provided in brackets. In selecting the publisher name, the trade name is the most commonly used. Place and name of the manufacturer is also included in this field, if known.

Some archival and manuscript cataloging records the date in the subfield f of the 245 (title) field. In visual materials cataloging, since a combination of published and unpublished works is included, all dates remain in the 260 field, as was done with the DVL audio materials.

In selecting a date format, choose the date pattern that is most specific to the material being described. Use ca. (i.e. circa) for material estimated to have been created within a decade at either end of the range (for example, ca. 1940 to represent approximately 1930 to 1950). If it is certain that the digital object was created between a span of years, use [between 1941 and 1949]. If it was copyrighted, and the date of copyright is known, enter this date in the 260 field preceded immediately with the letter 'c' (for example, c1910).

Abbreviations for months:
> Jan.
> Feb.
> Mar.
> Apr.
> May
> June
> July
> Aug.
> Sept.
> Oct.
> Nov.
> Dec.

Examples:

1987.

1997 Sept., c1997.

Fort Belvoir, VA. : Defense Technical Information Center [distributor], 1999.

United States : Wood Knapp, 1989.

Washington, D.C. : Defense Science Board ; [Fort Belvoir, VA .] : Defense Technical
Information Center [distributor], 2000 Apr. 1.

[Reston, Va.] : U.S. Dept. of Interior, U.S. Geological Survey ; [Denver, Colo. : USGS
Distribution Branch], 1995.

260 // Øc1987.

260 // Øc1997 Sept., c1997.

260 // ØaFort Belvoir, VA. :ØbDefense Technical Information Center
[distributor],Øc1999.

260 // ØaWashington, D.C. :ØbDefense Science Board ;Øa[Fort Belvoir, VA.]
:ØbDefense Technical Information Center,Øc2000 Apr. 1.

260 // Øa[Reston, Va.] : ØbU.S. Dept of Interior, U.S. Geological Survey ;Øa[Denver,
Colo. :ØbUSGS Distribution Branch],Øc1995.

300
PHYSICAL DESCRIPTION

MARC Tag (Field Name):

300	Physical description	a	Extent
		b	Other physical details
		c	Dimensions
		e	Accompanying material

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field ends with a period or other ending mark of punctuation (square bracket or closing parentheses). Enclose duration information in parentheses. Precede other physical details with a 'space, colon, space.' Precede dimensions with a 'space, semicolon, space.'

Data Conventions/Comments:

This field provides information about the physical properties of the computer file if it was originally stored on a physical object (as in the case of a CD-ROM).

AACR2 terms that may be used in the subfield include computer optical disc (for CD-ROMs), computer cartridge, computer cassette, computer disk (for magnetically encoded disks), computer reel and videodisc (for older formats). ISBD(ER) terms include optical disc (CD-ROM), optical disc (Photo CD), optical disc (CD-1), tape cassette, tape reel, disk, and chip cartridge. Optionally, the word "Electronic" can be placed in front of the specific designation, although it is unnecessary if the GMD is already supplied in the 245 field.

Other physical details that can be added to the subfield b include sd. (sound), col. (color), density and sectoring.

Information about accompanying materials like user's manuals, guides, and installation materials can be provided in this field. In the future, a determination may be made not to include information about dimensions and accompanying material in this field.

Entering specific physical details, like dimension, is not required. This information can be included when it is readily available. If no duration is provided, do not add this information to this field. If duration is stated as an approximation, it can be added to the 300 field preceding the time with 'ca.' (circa).

If cataloging online or remotely accessed computer files, do not use this field. Instead, describe contents of the computer file in the 256 (computer file characteristics) field.

Examples:

1 electronic optical disc (CD-ROM) : sd., col. ; 4 ¾ in. *ISBD(ER) format.*

1 computer optical disc : sd., col. ; 4 ¾ in. + 1 user manual. *AACR2 format.*

1 electronic disk : sd., col., single sided, single density, soft sectored. *CC:DA Task Force on Harmonization example.*

300 // Øa1 electronic optical disc (CD-ROM) :Øbsd., col. ;Øc 4 ¾ in. *ISBD(ER) format.*

300 // Øa1 computer optical disc :Øbsd., col. ;Øc4 ¾ in. +Øe1 user manual. *AACR2 format.*

300 // Øa1 electronic disk :Øbsd., col., single sided, single density, soft sectored. *CC:DA Task Force on Harmonization example.*

351
ORGANIZATION AND ARRANGEMENT

MARC Tag (Field Name):

351	Organization and arrangement	a	Organization
		b	Arrangement

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field. A semi-colon separates the subfield a and subfield b.

Data Conventions/Comments:

This field describes the organization and arrangement of a collection. It is to be used in collection level cataloging only. The organization subfield contains a description of the organization of the material and the arrangement subfield contains terms used to describe the pattern of arrangement (such as alphabetical, chronological, or by country).

This field may not be used with digital objects and is a candidate for deletion.

Examples:

Organized into the following series: […]; Each arranged chronologically.

351 // ØaOrganized into the following series: […];ØbEach arranged chronologically.

440
SERIES STATEMENT/ADDED ENTRY (TITLE)

MARC Tag (Field Name):

440	Series/statement/Added entry (Title)	a	Title
		n	Number or part/section
		p	Name of part/section
		v	Volume number

Indicators:	First	Undefined	Blank
	Second	Nonfiling characters	0-9

Note: The second indicator is for nonfiling characters. This number can range from 0 to 9, based on the number of characters in the initial article/s to ignore (for example, if a title begins with 'The,' nonfiling characters would be 4, representing 3 characters of the word and the additional space before the next word).

Punctuation/Spacing:

This field does not end with a mark of punctuation unless the ending word of the field contains a mark of punctuation.

Data Conventions/Comments:

This field contains a series title as found on the primary source of information itself. It is not anticipated to be used in most instances throughout the DVL. A series statement groups together works that are related by a common factor (like a publisher's series or a collection of works). Use of this field can be paired with the 8XX field, but the 8XX field is not expected to be used as part of the DVL.

Examples:

Knowledge Adventure series.

Civil War collection.

440 // ØaKnowledge Adventure series.

440 // ØaCivil War collection.

500
GENERAL NOTE

MARC Tag (Field Name):

500   General note   a   General note

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

Notes are used to record such information as the source of the date, title, or responsible agents as well as additional information, which do not clearly fit into other fields but is useful for documenting the digital object. Use this note field when information does not belong in any other specified fields in these guidelines. Some examples include translations from foreign languages, copyright claimant information, the name of related collections, information about responsible agents, and miscellaneous numbers. DVL cataloging has used this field to record information about the type of interaction the user will experience, information related to software applications, and information about modifications made to the digital object.

A note describing the source of the title is required when cataloging digital objects.

Examples:

Title devised by cataloger.

Title from title screen.

Title from title screen; edition statement from container.

Title from disc surface.

Title from container.

Title from first line of file.

Title from readme file.

Date based on …

Description based on home page dated:

Variation in title from…

Label on container:

No longer available via Internet.

Conference organized by S.J. Allen (UCSB) and Hiroyuki Sakaki (University of Tokyo); sponsored by the Quantum Transition Project (Japan Science and Technology Corp.), QUEST (National Science Foundation Science and Technology Center at UCSB), the DoD MFEL Program, and the Quantum Institute (UCSB).

This presentation uses the PowerPoint Viewer, freeware that is installed with the presentation as part of the start-up process. The presentation was created using Microsoft PowerPoint 97.

Contains a file of PowerPoint presentations organized into separate speaker files, in addition to a Photo Album documenting the conference with a table of contents and 21 slides of photographs with corresponding captions.

Online version does not contain all of the files that are on the original CD-ROM.

In the first module, the last video "Real Time Battle Damage Assessment" is damaged and unavailable to view; audio for this portion is available. Press PgDn or Escape to return to the menu.

Color is faded; some footage lacking.

500 // ØaTitle devised by cataloger.

500 // ØaTitle from title screen.

500 // ØaTitle from title screen; edition statement from container.

500 // ØaTitle from disc surface.

500 // ØaTitle from container.

500 // ØaTitle from first line of file.

500 // ØaTitle from readme file.

500 // ØaDate based on …

500 // ØaDescription based on home page dated:

500 // ØaVariation in title from …

500 // ØaLabel on container:

500 // ØaNo longer available via Internet.

500 // ØaConference organized by S.J. Allen (UCSB) and Hiroyuki Sakaki (University of Tokyo); sponsored by the Quantum Transition Project (Japan Science and Technology Corp.), QUEST (National Science Foundation Science and Technology Center at UCSB), the DoD MFEL Program, and the Quantum Institute (UCSB).

500 // ØaThis presentation uses the PowerPoint Viewer, freeware that is installed with the presentation as part of the start-up process. The presentation was created using Microsoft PowerPoint 97.

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500 // ØaIn the first module, the last video "Real Time Battle Damage Assessment" is damaged and unavailable to view; audio for this portion is available. Press PgDn or Escape to return to the menu.

500 // ØaColor is faded; some footage lacking.

505
FORMATTED CONTENTS NOTE

MARC Tag (Field Name):

505   Formatted contents note   a   Note

Indicators: First   Display constant controller   0   Contents
                                                                   1   Incomplete
                                                                   2   Partial
                                                                   8   No display constant

                   Second   Level of content designation   Blank   Basic

Punctuation/Spacing:

This field ends in a period when it contains a complete or partial contents listing. In an
incomplete contents listing, the field does not contain a period. Space-dash-dash-space (
--) is entered between each listing; a space-slash-space (/) precedes the name of the
responsible agent when known.

Data Conventions/Comments:

This field contains the titles of works within the cataloged material. Select performer
information can also be added after each description when describing collective files.

If the duration of a particular piece is included in the information contained with the item,
it can be provided in parentheses following each description. No single format is required
to record duration. It can appear as '(2:02)' or as '(20 min.)' based on the amount of
information available. When possible, enter duration using hours (when applicable),
minutes, and seconds in the following formats: (hours:minutes:seconds) and
(minutes:seconds).

The 505 field can be repeated, using each field for disparate contents information. For
example, one contents note can relay information about the titles on a disc or discs, while
the other note can contain information about hypertext documents related to the file titles.

Examples:

Module I: Authorized and unauthorized uses of IMPAC – Module II: Responsibilities and procedures for IMPAC operations – Module III: IMPAC processes and practical applications -- Quizzes, certificates of completion.

Dance madness / director, Jean Benoit-Levy ; choreography, Leone Mail ; performers, Claude Bessy and Jean Guelis (11 min.) -- Tugboat caption / Produced by Transfilm, inc.; created by Picture Press, Inc. (13 min).

[Disk 1]: Channel Islands, Death Valley, Joshua Tree -- [Disk 2]: Lassen Volcanic, Redwood, Sequoia-Kings Canyon, Yosemite. *LC Geography & Map Division example.*

Hypertext documents on all discs: Early American gravestones : introduction to the Farber Gravestone Collection / by Jessie Lie Farber -- Directory of cities and towns in the Farber Gravestone Collection. *Yale University example.*

505 0   ØaModule I: Authorized and unauthorized uses of IMPAC – Module II: Responsibilities and procedures for IMPAC operations – Module III: IMPAC processes and practical applications -- Quizzes, certificates of completion.

505 0   ØaDance madness / director, Jean Benoit-Levy ; choreography, Leone Mail ; performers, Claude Bessy and Jean Guelis (11 min.) -- Tugboat caption / Produced by Transfilm, inc.; created by Picture Press, Inc. (13 min).

505 0   Øa[Disk 1]: Channel Islands, Death Valley, Joshua Tree -- [Disk 2]: Lassen Volcanic, Redwood, Sequoia-Kings Canyon, Yosemite. *LC Geography & Map Division example.*

505 8   ØaHypertext documents on all discs: Early American gravestones : introduction to the Farber Gravestone Collection / by Jessie Lie Farber -- Directory of cities and towns in the Farber Gravestone Collection. *Yale University example.*

506
RESTRICTIONS ON ACCESS NOTE

MARC Tag (Field Name):

506   Restrictions on access note a   Terms governing access
                          b   Jurisdiction
                          d   Authorized users
                          e   Authorization

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

A note can be added to each record or supplied only at the collection level to provide information regarding access to the collections at the holdings institution. Access relates to physical, legal or procedural situations. This field contains information related to access to the physical property of the holdings institution. It is also used to document instances when a password is required for access, access is granted for official use only, or a subscription is required for access.

Examples:

Available only to DTIC staff. Defense Virtual Library, Defense Technical Information Center; Department of Defense authorized persons. Source of authority for restriction (ex.: Title, chapter).

For official use only.

Contact Luke Air Force Base for further information on access to original material.

506 // ØaAvailable only to DTIC staff.ØbDefense Virtual Library, Defense Technical Information Center;ØdDepartment of Defense authorized persons.ØeSource of authority for restriction (ex.: Title, chapter).

506 // ØaFor official use only.

506 // ØaContact Luke Air Force Base for further information on access to original material.

508
CREATION/PRODUCTION CREDITS NOTE

MARC Tag (Field Name):

508   Creation/production credits note   a   Note

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field. Separate between credits with 'space, semicolon, space.'

Data Conventions/Comments:

People or organizations that are not cast members who were involved in the production of the work are entered here. Examples include narrators, producers, directors, consultants, and editors among others. This field can contain an introductory phrase as a display constant (i.e. 'Credits:').

Examples:

Producer, Susan F. Hawkins ; writers, Susan F. Hawkins and Nancy Davis ; photographers, John Godwin and Susan F. Hawkins ; editor, Daniel J. Marcacci ; music/audio, Phil Walker.

508 // ØaProducer, Susan F. Hawkins ; writers, Susan F. Hawkins and Nancy Davis ; photographers, John Godwin and Susan F. Hawkins ; editor, Daniel J. Marcacci ; music/audio, Phil Walker.

510
CITATION/REFERENCES NOTE

<u>MARC Tag (Field Name):</u>

510	Citation/References Note	a	Name of source
		c	Location within source

<u>Indicators:</u>   <u>First</u>   Location in source not given   3

                                        Location in source given   4

<u>Second</u>   Undefined   Blank

<u>Punctuation/Spacing:</u>

This field does not end with a mark of punctuation.

<u>Data Conventions/Comments:</u>

This field contains notes and citations or references to published descriptions of the digital object. It is used to provide a reference to publications where an item has been cited. No attempt should be made to create a complete list of citations. This field can be used in cases where the source cited refers to a checklist, catalog, or review.

<u>Examples:</u>

The guidelines for this field do not currently include any examples.

516
TYPE OF COMPUTER FILE OR DATA NOTE

Field Name (MARC Tag):

516   Type of computer file or data note   a   Note

Indicators: First   No display constant   8
                                   Display constant 'Type of file:'   Blank

                     Second   Undefined   Blank

Note: First indicator can generally be set to 8.

Punctuation/Spacing:

Do not end this field with a mark of punctuation unless the field ends with data ending in a mark of punctuation (like an abbreviation or initial letter). This field is to be used only when cataloging computer files specifically.

Data Conventions/Comments:

This field contains a description of the type of computer file data being cataloged. It is represented in coded form in the 008/26 field. Possible terms include: document, game, interactive multimedia, online system or service, and combination.

Some organizations use the field for a free text notation about the type of computer file, like "File is in Postscript format." or "Electronic journal available in ASCII and Rich Text."

Examples:

Interactive multimedia

516 8   ØaInteractive multimedia

520
SUMMARY NOTE

MARC Tag (Field Name):

520   Summary, abstract, scope note   a   Summary note

Indicators:	First	No display constant	8
		Display constant 'Subject:'	0
		Display constant 'Summary:'	Blank
	Second	Undefined	Blank

Note: First indicator can generally be set to 8.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field contains a succinct objective summary note describing the digital object. A summary note is not required and should be used only to enrich information available to the researcher by viewing the electronic file or reading the bibliographic record. It is not necessary to add a summary description to each bibliographic record, but this note can be added when textual description will enhance understanding of the material.

Examples:

Multimedia presentation of final report of the Defense Science Board Task Force on the National Imagery and Mapping Agency (NIMA). Review of NIMA's role in U.S. superior imagery and geospatial information. Development of Tasking, Processing, Exploitation and Dissemination (TPED) process.

520 8/ ØaMultimedia presentation of final report of the Defense Science Board Task Force on the National Imagery and Mapping Agency (NIMA). Review of NIMA's role in U.S. superior imagery and geospatial information. Development of Tasking, Processing, Exploitation and Dissemination (TPED) process.

530
ADDITIONAL PHYSICAL FORM AVAILABLE NOTE

MARC Tag (Field Name):

530	Additional physical form note	a	Note
		b	Availability source
		c	Availability conditions
		d	Order number

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field can be used optionally to refer to transcripts and surrogates of the material, including other formats. When describing more than one format of the same material in a single record, this field can contain information distinguishing the contents of the remote and physical files.

Examples:

Typewritten transcript available at…

Reference copy available...

Executive summary also available from the DoD web site. Address as of 3/10/2001: http://www…

Use electronic surrogate.

530 // ØaTypewritten transcript available at…

530 // ØaReference copy available...

530 // ØaExecutive summary also available from the DoD web site. Address as of 3/10/2001: http://www…

530 // ØaUse electronic surrogate.

533
REPRODUCTION NOTE

<u>MARC Tag (Field Name):</u>

533	Reproduction note	a	Type of reproduction
		b	Place of reproduction
		c	Responsible agency
		d	Date of reproduction
		e	Physical description of repro.
		f	Series statement of repro.
		m	Date of issues reproduced
		n	Note about reproduction
		7	Fixed length elements

<u>Indicators:</u>

Indicator codes are not defined for this field.

<u>Punctuation/Spacing:</u>

A period or other ending mark of punctuation is always at the end of this field. If use of the subfield 7 (fixed-length elements) is implemented, the period or ending mark of punctuation precedes the Ø7. Place of reproduction is separated by the name of the responsible agency with a 'space, colon, space.' The series statement can be enclosed in parentheses.

<u>Data Conventions/Comments:</u>

This field describes a reproduction of original material when the original item is described in the main body of the bibliographic record. Do not use this field when describing digital objects that have not been reformatted for the DVL. This field has generally been used for reproductions of serials, most commonly for reproductive microforms, but use with electronic materials has been implemented in other instances.

The subfield n (Note about reproduction) can be repeated if more than one note is necessary to convey details about the reproduction process.

The fixed-length data element (subfield 7) is composed of 15 character positions that describe elements about the reproduction that correspond to those contained in the 008 field for the original material (including type of date, dates 1 and 2, place of publication, frequency, regularity, and form of item). Frequency and regularity relate to serials cataloging. If the fixed-length element is incorporated into the DVL, an example of subfield coding is: **s2000////xxun/s** (representing single date, reproduced in year 2000, no second date, reproduced in the U.S., frequency and regularity not applicable, electronic

form of item). This subfield information may also be located in other fields, and may not be implemented in the DVL.

Additional MARC fields identified that may contain information about electronic reproductions include the 583 field (Action note) and the 856 field (Electronic location and access).

Refer to the Research Libraries Group's (RLG) Working Group on Preservation Issues of Metadata. Appendix 2. Preservation-Related Metadata Recorded in USMARC Records (http://www.rlg.org/preserv/metaapp2.html) for options of using field 533 for digital version information. RLG initially supported the implementation of both the 533 and the 583 to record preservation-related metadata within the MARC record. Since that time, there has been greater support for the use of the 583 field for this information. Determinations about which field to use and the manner in which the field would be implemented remain in flux. An example of possible implementation based on the RLG documentation for electronic reproductions is included here.

Examples:

Computer file. 1999 Feb. 21 Fort Belvoir, VA : Defense Technical Information Center, 10 May 2000. Physical description of reproduction. (Project Name). DTIC reformatted electronic file originally created by ... s2000////xxun/s

533 // ØaComputer file.Øm1999 Feb. 21ØbFort Belvoir, VA :ØcDefense Technical Information Center,Ød10 May 2000.Øephysical description of repro.Øf(Project Name).ØnDTIC reformatted electronic file originally created by …Ø7s2000////xxun/s

535
LOCATION OF ORIGINALS/DUPLICATES NOTE

MARC Tag (Field Name):

535   Location of originals/duplicates note   a   Custodian
                                              b   Postal address
                                              c   Country
                                              d   Telecommunication address
                                              3   Materials specified

Indicators: First   Custodian: holder of originals   1
                                 Custodian: holder of duplicates 2

                    Second   Undefined   Blank

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.
Optionally, separate data between subfields with a semicolon.

Data Conventions/Comments:

This field names the holding institution that has custody over the original or duplicate
material described in the record. Use this field only when the material is located in a
repository that is different from the institution described in the bibliographic record. This
field can be used in conjunction with the 562 field (Copy and version identification note)
to convey information about the institution that has the original material.

Examples:

Duplicate CD-ROM Smithsonian Institution; Washington, D.C. USA; 202-020-2020

535 2/ Ø3Duplicate CD-ROMØaSmithsonian Institution;ØbWashington,
D.C.;ØcUSA;Ød202-020-2020

538
SYSTEM DETAILS NOTE

<u>Field Name (MARC Tag):</u>

538   System details note   a   Note

<u>Indicators:</u>

Indicator codes are not defined for this field.

<u>Punctuation/Spacing:</u>

A period of other ending mark of punctuation is always at the end of this field. This field begins with the text 'System requirements' or 'Mode of access' followed by a colon. Each detail is then separated by a semi-colon.

<u>Data Conventions/Comments:</u>

This field contains system information and notes about system requirements. This field is to be used only when cataloging computer files specifically. It includes information about hardware, software, and peripheral requirements for use. Record any special software needed, unusual amounts of memory required or special hardware necessary to access the computer file. This information can include the name, model or number of the machine, operating system, or amount of memory needed.

This field begins with the phrase "System requirements" or "Mode of access." Repeat the field if the computer file runs on both PCs and MACs to provide information that must be conveyed in order to operate each system.

System requirements should be described in the following order: make and model of the computer, amount of required memory, name of operating system, software requirements, and description of required or recommended peripherals. Mode of access entries can contain web site address information.

Examples:

System requirements: PC with modem or direct Internet connection; World Wide Web browser and sound card or player.

System requirements: Windows95 and PowerPoint97 (best results with Windows98 and PowerPoint2000); audio and video capabilities. For best results, copy complete DSB folder to hard drive.

System requirements: IBM-PC or compatible (386 or 486 based (486 recommended)); 4 MB application RAM; Windows 3.1 or greater; 4 MB hard-disk space; 1.44 MB 3.5 in. floppy-disk drive; CD-ROM drive (double speed or higher recommended).

System requirements: 486 or Pentium level personal computer; 16 MB RAM; Microsoft Windows 95; Windows compatible 1024 x 768 24-bit graphics card & monitor; 50 MB dedicated hard drive space; MPC certified 4x CD-ROM drive; mouse or other pointing device; Adobe Acrobat reader must be installed separately to read hypertext documents (software included on the discs).

System requirements: Windows, Adobe Acrobat 3.0, Excel 5.0 or later, Netscape Navigator 3.x or higher or Microsoft Internet Explorer 3.x or higher.

System requirements: Adobe Acrobat Reader.

Mode of access: Internet World Wide Web. Host: dvl.dtic.mil

Mode of access: Available electronically via Internet.

538 // ØaSystem requirements: PC with modem or direct Internet connection; World Wide Web browser and sound card or player.

538 // ØaSystem requirements: IBM-PC or compatible (386 or 486 based (486 recommended)); 4 MB application RAM; Windows 3.1 or greater; 4 MB hard-disk space; 1.44 MB 3.5 in. floppy-disk drive; CD-ROM drive (double speed or higher recommended).

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538 // ØaSystem requirements: Windows, Adobe Acrobat 3.0, Excel 5.0 or later, Netscape Navigator 3.x or higher or Microsoft Internet Explorer 3.x or higher.

538 // ØaSystem requirements: Adobe Acrobat Reader.

538 // ØaMode of access: Internet World Wide Web. Host: dvl.dtic.mil

538 // ØaMode of access: Available electronically via Internet.

540
TERMS GOVERNING USE & REPRODUCTION NOTE

MARC Tag (Field Name):

540   Terms governing use & repro.   a   Terms
                                                b   Jurisdiction
                                                c   Authorization
                                                d   Authorized users

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field contains a general statement describing terms governing use and reproduction after access has been provided. This statement is usually constructed with assistance from the holding institution, and could be defaulted in every record associated with a single collection.

It may be possible to incorporate use of this field into the records to describe terms of use and reproduction that relate to the electronic item as well as the original material. These terms could include information about authorized groups and access rights for use and reproduction of the digitized file.

The examples that follow include some possible notes related to copyrighted materials. DVL will follow departmental policies concerning copyrighted materials. If DVL material has copyright restrictions, information about restrictions on use and reproduction can be contained in this field. Optionally, broader information related to copyright can be included in a separate web page that explains restrictions on use and users' responsibilities.

DVL practice in describing the sample complex digital objects is to include the statement "Reproduction rights may be restricted through copyright" in all bibliographic records.

Examples:

Credit line: Air Force Historical Research Agency, Maxwell Air Force Base, AL.; no reproduction restrictions.

Credit line: Office of the Chief of Naval Operations, Washington, DC; reproduction prohibited.

May be restricted: Information on reproduction rights available at…

No reproduction restrictions known.

Reproduction rights may be restricted through copyright.

Restricted: Information on reproduction rights available from Los Alamos National Laboratory.

Copyright owned by…

Duplication not permitted.

Permission required to cite, quote, and reproduce; contact repository for information.

Restrictions: It is unlawful to download, copy, print or utilize in any other form this material without written consent from the copyright holder.

540 //   ØaCredit line: Air Force Historical Research Agency, Maxwell Air Force Base, AL.; no reproduction restrictions.

540 // ØaCredit line: Office of the Chief of Naval Operations, Washington, DC; reproduction prohibited.

540 // ØaMay be restricted: Information on reproduction rights available at…

540 // ØaNo reproduction restrictions known.

540 // ØaReproduction rights may be restricted through copyright.

540 // ØaRestricted: Information on reproduction rights available from Los Alamos National Laboratory.

540 // ØaCopyright owned by …

540 // ØaDuplication not permitted.

540 // ØaPermission required to cite, quote, and reproduce; contact repository for information.

540 // ØaRestrictions: It is unlawful to download, copy, print or utilize in any other form this material without written consent from the copyright holder.

541
IMMEDIATE SOURCE OF ACQUISITION NOTE

MARC Tag (Field Name):

541	Immediate source of acquisition	c	Method of acquisition
		a	Source of acquisition
		d	Date of acquisition
		e	Accession number

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field. A semicolon separates each subfield.

Data Conventions/Comments:

This field contains information about the source of acquisition of this material by the holding institution. This information is generally included in the accession record. To date, use of this field has not been implemented since this information has not been relevant to the materials currently contained in the DVL.

Examples:

Gift; John Smith; 1943.

541 // ØcGift; ØaJohn Smith;Ød1943.

545
BIOGRAPHICAL OR HISTORICAL NOTE

MARC Tag (Field Name):

545   Biographical or historical note   a   Note

Indicators: <u>First</u>   Type of data   Blank   No information provided

                        <u>Second</u>   Undefined   Blank

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

A brief history related to the organization that created the digital object, or biographical information about the creator. This note should relate biographical or historical information about the main entry. It is not required, but can be used to place creation of the digital object in context. This field will not commonly be used to catalog digital objects in the DVL. It is generally used in collection level records.

Examples:

The guidelines for this field do not currently include any examples.

546
LANGUAGE NOTE

MARC Tag (Field Name):

546   Language note   a   Language note

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field is used to record the language/s of the described material. It has not been implemented yet because there has not been any foreign language material in the DVL.

Examples:

Recorded in English; captioned in English and German.

546 // ØaRecorded in English; captioned in English and German.

555
CUMULATIVE INDEX/FINDING AIDS NOTE

MARC Tag (Field Name):

555   Cumulative index/finding aids note   a   Note

Indicators: First   No display constant generated   8

                   Second   Undefined   Blank

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field contains information identifying indexes and finding aids available that focus on the described collection. It is used in collection level cataloging only. This field describes details about the level of control the index or finding aid provides.

Examples:

Unpublished guide.

Name index available.

Detailed information is available through the in-house automated catalog.

555 // ØaUnpublished guide.

555 // ØaName index available.

555 // ØaDetailed information is available through the in-house automated catalog.

556
INFORMATION ABOUT DOCUMENTATION NOTE

MARC Tag (Field Name):

556   Information about documentation note   a   Note

Indicators: First   No display constant generated   8

                   Second   Undefined   Blank

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field contains information the documentation of the files.

Examples:

Documentation in 'readme' file.

User's guide available online via Internet e-mail and FTP access.

556 8/ ØaDocumentation in 'readme' file.

556 8/ ØaUser's guide available online via Internet e-mail and FTP access.

562
COPY AND VERSION IDENTIFICATION NOTE

<u>MARC Tag (Field Name):</u>

562   Copy and version identification note   a   Identifying markings
                                                        b   Copy identification
                                                        c   Version identification
                                                        d   Presentation format
                                                        3   Materials specified

<u>Indicators:</u>

Indicator codes are not defined for this field.

<u>Punctuation/Spacing:</u>

A period or other ending mark of punctuation is always at the end of this field.

<u>Data Conventions/Comments:</u>

This field is used to distinguish between copies of materials when more than one copy or
version exists. It is used in cases where edition or version information is supplied by the
cataloger. Use the 250 field (Edition statement) in instances where this information is
transcribed directly from the primary source of information. This field can be used in
conjunction with the 535 field (Location of originals/duplicates note) to provide
information about both the original and the copy.

There is a possibility that use of this field might be implemented for information about
electronic versions. Additional fields that can contain information about digitized
versions include the 533 field (Reproduction note), 583 field (Actions note), and 856
field (Electronic location and access).

<u>Examples:</u>

In German with English captions.

562 // ØcIn German with English captions.

567
METHODOLGY NOTE

MARC Tag (Field Name):

567   Methodology note   a   Note

Indicators: First   No display constant generated   8

                   Second   Undefined   Blank

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field contains information about methodological characteristics of the file or files, including notes about algorithm, validation or classification.

Examples:

The guidelines for this field do not currently include any examples.

580
LINKING ENTRY COMPLEXITY NOTE

MARC Tag (Field Name):

580   Linking entry complexity note   a   Note

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field is used to express the relationship between the item described in the
bibliographic record and other related records. It is used at the subunit or item level to
relate to the collection record.

This field can also used in conjunction with linking entry fields to explain the link
between related items in cases where this linkage cannot be expressed solely with the 787
field. For example, the linkage between DTIC CD-ROMS and the related technical
report can be further detailed by using the this field in conjunction with the 787 field
(nonspecific relationship entry), although use of the 580 has not been required or
implemented to date. It is possible that future electronic linkage to technical reports will
utilize the 856 field.

Examples:

Forms part of the XYZ collection.

Accompanies: Defense Technical Information Center technical report titled, "Look and
Feel: Haptic Interaction for Biomedicine" (AD-A286 984).

580 // ØaForms part of the XYZ collection.

580 // ØaAccompanies: Defense Technical Information Center technical report titled,
"Look and Feel: Haptic Interaction for Biomedicine" (AD-A286 984).

581
PUBLICATIONS NOTE

MARC Tag (Field Name):

581   Publications Note   a   Note

Indicators: First   No display constant generated   8

              Second   Undefined   Blank

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field. Follow the
format supplied in the *Chicago Manual of Style* (for example: Published in: Title /
Author. Place of publication : Publisher, Date, p. #).

Data Conventions/Comments:

Use this field to cite a publication based on the digital object itself. Use the introductory
expression "Discussed in:" to cite sources where the digital object was discussed.

Note: In cases where the source cited refers to a checklist or catalog, MARC field 510
may be used.

For additional information related to the use of this field, see *Archives, Personal Papers,
and Manuscripts* (1.7B14.), and *Anglo-American Cataloging Rules*, 2nd edition (1.7A4.).

Examples:

Discussed in:

581 // ØaDiscussed in:

583
ACTION NOTE

MARC Tag (Field Name):

583	Action note		a	Action note
			b	Action identification
			c	Time/date of action
			d	Action interval
			f	Authorization
			i	Method of action
			j	Site of action
			k	Action agent
			l	Status
			x	Nonpublic note
			z	Public note

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

This field does not end with a mark of punctuation unless the ending word of the field contains a mark of punctuation. Optionally, separate data between subfields with a semicolon.

Data Conventions/Comments:

This field is used to record information about the status of processing and preservation actions, including processing related to digitization. The field can be repeated to describe different actions performed during processing or preservation. This field may contain reformatting information related to electronic actions. This field is for use in cases where the material was reformatted, but not for material where there was no processing or preservation treatment.

Many 583 subfields are repeatable within each field (Øa and Ø3 are two subfields that are not repeatable). Multiple versions are identified with the use of the materials specified subfield, while multiple actions are identified with the use of separate repeated 583 fields.

The subfield a (Action note) can use standard terminology (see http://lcweb.loc.gov/marc/bibliographic/583terms.html). Terms include: reformatted (to be used with Øi or Øl) and will reformat (to be used with Øc and Ød).

The subfields x (Nonpublic note) and z (Public note) can be repeated if more than one note is necessary to convey details about the digitization process.

Additional MARC fields that may contain information about electronic reproductions include the 533 field (Reproduction note) and the 856 field (Electronic location and access).

Refer to the Research Libraries Group's Working Group on Preservation Issues of Metadata. Appendix 2. Preservation-Related Metadata Recorded in USMARC Records (http://www.rlg.org/preserv/metaapp2.html) for options of using field 583 for digital version information. An example of possible implementation based on the RLG documentation for electronic reproductions is included here.

Examples:

reformatted; CXADM001018; 20000401; XYZ Reformatting ; John Q. Electronic. Nonpublic note with formatting details. Digitally remastered by DTIC for the Defense Virtual Library.

583 // Øareformatted; ØbCXADM001018; Øc20000401; ØjXYZ Reformatting ; ØkJohn Q. Electronic. ØxNonpublic note with formatting details. ØzDigitally remastered by DTIC for the Defense Virtual Library.

583

600
SUBJECT ADDED ENTRY: PERSONAL NAME

MARC Tag (Field Name):

600	Subject added entry: Personal	a	Personal name
		b	Numeration
		c	Titles
		q	Fuller form of name
		d	Dates
		x	General subdivision
		z	Geographic subdivision

Note: Information in subfields a-q is to be taken directly from online searching of LC files.

Indicators:	First	Type of personal name	0	Forename
			1	Surname
			3	Family name
	Second	Subject heading system	0	LC authority
			4	Source not specified
			7	Source in Ø2

Punctuation/Spacing:

Punctuation follows the format provided in the Library of Congress Name Authority File (NAF). When an open-ended life date is at the end of the field, end the field with the hyphen, not a period.

When adding general subdivisions, hyphens are usually system-supplied between the subfields from the name as found in NAF and the subfields for the subdivision.

Data Conventions/Comments:

This field contains a personal name used as a subject indexing term. Use this field to index digital objects where the subject is a person. Search NAF for the proper form of the name and enter the name exactly as it appears. If the name is not found in NAF, based on the information available it can either be included in this field or recorded in a note field.

Examples:

Roosevelt, Franklin D. (Franklin Delano), 1882-1945.

600 10 ØaRoosevelt, Franklin D.Øq(Franklin Delano),Ød1882-1945.

610
SUBJECT ADDED ENTRY: CORPORATE NAME

MARC Tag (Field Name):

610	Subject added entry: Corporate		a	Corporate name
			b	Subordinate units
			x	General subdivision
			y	Chronological subdivision
			z	Geographic subdivision

Note: Information in subfields a-b is to be taken directly from online searching of LC files.

Indicators:	First	Type of name	0	Inverted name
			1	Jurisdiction name
			2	Name in direct order
	Second	Subject heading system	0	LC authority
			4	Source not specified
			7	Source in Ø2

Punctuation/Spacing:

Punctuation follows the format provided in the Library of Congress Name Authority File (NAF). Note that corporate names ending with a closing parentheses do not use a period at the end of the line.

Data Conventions/Comments:

This field contains the name of the corporate body used as a subject indexing term. Use this field to index digital objects where the subject is a corporate name. Search NAF for the proper form of this name, and enter the name exactly as it is found. If the name is not found in NAF, based on the information available it can either be included in this field or recorded in a note field.

Examples:

United States. Congress. Senate.

United States. Army--Procurement.

United States. National Imagery and Mapping Agency.

Cable News Network.

610 10 ØaUnited States.ØbCongress.ØbSenate.

610 10 ØaUnited States.ØbArmyØxProcurement.

610 10 ØaUnited States.ØbNational Imagery and Mapping Agency.

610 20 ØaCable News Network.

611
SUBJECT ADDED ENTRY: MEEETING NAME

MARC Tag (Field Name):

611	Subject added entry: Meeting	a	Meeting name
		n	Number of meeting
		d	Date of meeting
		c	Location of meeting
		e	Subordinate unit
		x	General subdivision

Indicators:	First	Type of meeting name	0	Inverted name
			1	Jurisdiction name
			2	Name in direct order
	Second	Subject heading system	0	LC authority
			4	Source not specified
			7	Source in Ø2

Punctuation/Spacing:

Punctuation follows the format provided in the Library of Congress Name Authority File.

Data Conventions/Comments:

This field contains a meeting name as a subject of the digital object. Search the Library of Congress Name Authority File (NAF) for the proper form of this name, and enter the name exactly as it is found. If the name is not found in NAF, based on the information available it can either be included in this field or recorded in a note field.

Examples:

Olympic Games (23rd : 1984 : Los Angeles, Calif.)

Dynamics in Quantum Structures Far from Equilibrium (July 1997 : Santa Barbara, Calif.)

611 20 ØaOlympic GamesØn(23rd :Ød1984 :ØcLos Angeles, Calif.)

611 24 ØaDynamics in Quantum Structures Far from Equilibrium Ød(July 1997 :ØcSanta Barbara, Calif.)

630
SUBJECT ADDED ENTRY: UNIFORM TITLE

MARC Tag (Field Name):

630	Subject added entry: Uniform title	a	Uniform title	
		v	Form subdivision	

Indicators:	First	Nonfiling characters	0-9	
	Second	Subject heading system	0	LC authority
			4	Source not specified
			7	Source in Ø2

Note: The first indicator is for nonfiling characters. This number can range from 0 to 9, based on the number of characters in the initial article/s to ignore (for example, if a title begins with 'The,' nonfiling characters would be 4, representing 3 characters of the word and the additional space before the next word).

Punctuation/Spacing:

Punctuation follows the format provided in the Library of Congress Name Authority File (NAF).

Data Conventions/Comments:

This field contains titles of songs, comic strips, movies, radio programs, motion pictures and television programs as a subject. Search NAF for the proper form of this name, and enter the name exactly as it is found. If the name is not found in NAF, based on the information available it can either be included in this field or recorded in a note field.

A form subdivision can be added to the heading to designate the format of the material described. This subfield can include the terms 'Interactive multimedia,' 'Software,' 'Computer program' and 'Database.'[11]

Examples:

Bible. Interactive multimedia.

630 00 ØaBibleØvInteractive multimedia.

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[11] See http://www.lib.usm.edu/~techserv/cat/formsubv.htm for a complete list of form subdivisions.

650
SUBJECT ADDED ENTRY: TOPICAL TERM

MARC Tag (Field Name):

650	Subject added entry: Topical	a	Topical term
		v	Form subdivision
		x	General subdivision
		y	Chronological subdivision
		z	Geographical subdivision
		2	Source of heading

The first indicator can be set as blank (no information on level of subject provided).

Indicators:	First	Level of subject	Blank	No information provided
	Second	Subject heading system	0	LCSH
			4	Source not specified
			7	Source in Ø2

Punctuation/Spacing:

A period or ending mark of parentheses is at the end of this field. Subfields are separated by system-supplied hyphens. If subfield 2 is the last subfield entered, the mark of punctuation or closing parentheses precedes the subfield, system-supplied hyphens do not precede the subfield 2, and there is no ending mark of punctuation following the subfield 2.

Data Conventions/Comments:

Select topical terms that describe the subject/s of the digital object. If there is a summary note, all indexing terms selected should relate to the description in the summary note (520) or title (245); however, not all concepts expressed in the summary note need to have corresponding index terms. It is also appropriate to index subjects when no summary note (520) is used in the bibliographic record. If possible, index terms should be selected from the *Library of Congress Subject Headings*, accessible online through the Library of Congress Name Authority File (NAF).

It is not necessary to include topical subject headings in every catalog record. When topical subject headings are used, they may use one or more LCSH terms without any subdivisions, or they may incorporate subdivisions for general, form, geographical, and/or chronological categories.

Geographical subdivisions provide a hierarchical description of the location described in the digital object. Use standard geographic place names as found in Library of

Congress Name Authority Files (NAF) or follow standard patterns for creating such names.

Chronological subdivisions provide a date range for the digital object, if applicable. Use span dates for the chronological subdivision (rounded to the nearest decade span) unless the date is a single year ending in zero (for example, 1940).

If the date is listed in the date field (260) as 1945, enter the date span as a chronological subdivision as 1940-1950.
If the date is listed in the date field (260) as [between 1943 and 1945; reproduction 1979], enter the date span as a chronological subdivision as 1940-1950.
If the date is listed in the date field (260) as [between 1941 and 1965], enter the date span as a chronological subdivision as 1940-1970.
If the date is listed in the date field (260) as [ca. 1940], enter the date as a chronological subdivision as 1930-1950.
If the date is listed in the date field (260) as 1950, enter the date as a chronological subdivision as 1950.

Form subdivisions can include the following terms: Databases, Computer programs, Interactive multimedia, and Software.

If the appropriate term is not found in LCSH, but is found in another source (like the *Defense Technical Information Center Thesaurus*) or has been created as part of the DVL, that term can be entered in the 650 with the second indicator set to indicate the source of the term. Optionally, the term can be entered in the 653 field (uncontrolled index term) instead.

When possible, if using headings that are not from LCSH, cite the source in subfield 2, and set the indicator to 7 to show that the subject heading system is specified in the subfield. For example, use the subfield 2 when using terms from the *Thesaurus for Graphic Materials* or the *Art and Architecture Thesaurus*. The code for these subject heading systems is entered as lctgm or aat. If the cataloging source is not specified and is not LCSH (possibly when using DTIC thesaurus terms), change the indicator to 4.

Examples:

Elephants--Malaysia.

Children blowing bubbles--1980-1990.lctgm

Military art and science--Forecasting.

Surgery, Operative--Computer simulation.

Noise pollution--California--San Clemente Island.

T-45 (Training plane) *not found in LC online; source not given*

Information technology--Interactive multimedia

650   0 ØaElephantsØzMalaysia.

650   7 ØaChildren blowing bubblesØy1980-1990.Ø2lctgm

650 0 ØaMilitary art and scienceØxForecasting.

650   0 ØaSurgery, OperativeØxComputer simulation.

650   0 ØaNoise pollutionØzCaliforniaØSan Clemente Island.

650   4 ØaT-45 (Training plane) *not found in LC online; source not given*

650   0 ØaInformation technologyØvInteractive multimedia.

651
SUBJECT ADDED ENTRY: GEOGRAPHIC NAME

MARC Tag (Field Name):

651	Subject added entry: Geographic	a	Topical term
		x	General subdivision
		y	Chronological subdivision

Indicators: First   Undefined   Blank

Second   Subject heading system 0 LC authority
                   4 Source not specified
                   7 Source in Ø2

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field. Subfields are separated by system-supplied hyphens. If the field ends with closing parentheses, do not add a period following the closing parentheses.

Data Conventions/Comments:

This field contains a geographic name used as an indexing term. Search the Library of Congress Name Authority File (NAF) for the proper form of the name and enter it exactly as it is found.

Most entries using this field will use only the subfield a and y. The additional subfields are used in some ambiguous geographic headings, like the names of some wars, military parks, and forts.

Examples:

United States--History--Civil War, 1861-1865.

Boston (Mass.)

651 /0 ØaUnited StatesØxHistoryØyCivil War, 1861-1865.

651 /0 ØaBoston (Mass.)

653
SUBJECT ADDED ENTRY: UNCONTROLLED INDEX TERM

MARC Tag (Field Name):

653   Subject Added Entry: Uncontrolled   a   Index term

Indicators: First   Level of index term   Blank   No information provided

                Second   Undefined   Blank

Punctuation/Spacing:

The field does not end with a mark of punctuation unless the punctuation is part of the
data.

Data Conventions/Comments:

This field contains index terms that are not derived from a controlled subject heading
system or thesaurus. For the DVL, this field can be used to list the bucket terms in
consideration for display purposes or for exhibit pages (for example, it can be used to
group files related to one theme into a group). The subfield a can be repeated when more
than one index term is assigned.

Examples:

Lifestyles

Explosions

653 // ØaLifestylesØaExplosions

655
SUBJECT ADDED ENTRY: FORM/GENRE

MARC Tag (Field Name):

655	Subject added entry: Form/Genre	a	Form/Genre
		v	Form subdivision
		x	General subdivision
		y	Chronological subdivision
		2	Source of term

Indicators: First   Type of heading   Blank   Basic

Second   Source specified in subfield 2   7

Punctuation/Spacing:

A period is always at the end of this field. Each subfield should be separated by system-supplied hyphens.

Data Conventions/Comments:

Form and genre terms can be used to describe characteristics of the digital object. Subject headings can be assigned for the physical form of the digital object being described, but for DVL materials, the use of access points for physical characteristics has not been implemented. Possible form subject headings include Interactive multimedia and CD-ROMs. Subject headings can be used from the *Library of Congress Subject Headings* (LCSH) or the *Art and Architecture Thesaurus* (AAT) as appropriate.

The AAT is available online at: http://shiva.pub.getty.edu/aat_browser/

Examples:

Software. aat

CD-ROMs lcsh

655 /7 ØaSoftware.Ø2aat

655 /7 ØaCD-ROMs.Ø2lcsh

700
ADDED ENTRY: PERSONAL NAME

MARC Tag (Field Name):

700	Added entry: Personal Name	a	Personal name
		b	Numeration
		c	Titles
		q	Fuller form of name
		d	Dates
		e	Relator term

Indicators:	First	Type of personal name	0	Forename
			1	Surname
			3	Family name
	Second	Type of added entry	Blank	No information provided

Punctuation/Spacing:

Enter data exactly as it appears in the Library of Congress Name Authority Files (NAF).
A comma follows personal name data except when preceding a fuller form of the name in
parentheses. A comma follows the fuller form of the name supplied in parentheses. A
period comes at the end of the field. In the case where a life date is open-ended, do not
add any punctuation.

Data Conventions/Comments:

The 700 field is used only for providing important controlled access to people who were
directly involved in the creation or production of the digital object. Search NAF for the
accepted style of entry for each name, and enter data exactly as it is found. This field may
be repeated.

Relator terms that may be used in the DVL include the following: author, compiler,
contractor, designer, distributor, editor, metadata contact, programmer, and sponsor. Do
not add a relator term if the role in creation is unclear.[12]

If a name is not found in NAF, based on the information available the name can either be
included in this field or recorded in a note field.

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[12] DVL uses the subfield e to clearly name the relationship between the name and the work. Another option
is to use subfield 4 with relator codes like aut (author), dsr (designer), and prg (programmer). A code list of
relator terms is maintained by the Library of Congress and is available at http://lcweb.loc.gov/marc.

Examples:

Sakaki, Hiroyuki, 1944-

Jones, Anita, Dr.

700 1/ ØaSakaki, Hiroyuki,Ød1944-

700 1/ ØaJones, Anita,ØcDr.

710
ADDED ENTRY: CORPORATE NAME

MARC Tag (Field Name):

710	Added entry: Corporate Name	a	Corporate name
		b	Subordinate units
		e	Relator terms

Indicators: First   Type of corporate name   0   Inverted name
                                                 1   Jurisdiction name
                                                 2   Name in direct order

             Second   Type of added entry   Blank   No information provided

Punctuation/Spacing:

This field ends with a period or other mark of punctuation. A comma precedes the relator term; otherwise follow the same form of name listed in the Library of Congress Name Authority File (NAF).

Data Conventions/Comments:

This field contains names of corporate bodies directly involved with the digital object. Search NAF for the accepted style of entry for each name, and enter data exactly as it is found This field may be repeated. If the name is not found in NAF, based on the information available the name can either be included in this field or recorded in a note field.

Relator terms that may be used in the DVL include the following: author, compiler, contractor, designer, distributor, editor, metadata contact, programmer, and sponsor. Do not add a relator term if the role in creation is unclear.[13]

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[13] DVL uses the subfield e to clearly name the relationship between the name and the work. Another option is to use subfield 4 with relator codes like aut (author), dsr (designer), and prg (programmer). A code list of relator terms is maintained by the Library of Congress and is available at http://lcweb.loc.gov/marc.

<u>Examples:</u>

United States. Bureau of Reclamation, sponsor.

Boston Dynamics, Inc., copyright holder.

Texas A&M University. Dept. of Mechanical Engineering, contractor.

710 1   ØaUnited States.ØbBureau of Reclamation,Øesponsor.

710 2   ØaBoston Dynamics, Inc.,Øecopyright holder.

710 2   ØTexas A&M University.ØbDept. of Mechanical Engineering,Øecontractor.

710

711
ADDED ENTRY: MEETING NAME

MARC Tag (Field Name):

711	Added entry: Meeting name	a	Meeting name
		n	Number of meeting
		d	Date of meeting
		c	Location of meeting
		e	Subordinate unit

Indicators:	First	Type of meeting name	0	Inverted name
			1	Jurisdiction name
			2	Name in direct order
	Second	Type of added entry	Blank	No information provided

Punctuation/Spacing:

A period or other ending mark of punctuation is at the end of this field, unless the field ends with a closing parentheses.

Data Conventions/Comments:

This field contains a meeting or conference name used as an added entry.   Examples include such meetings are exhibitions, expeditions, festivals, and seminars. Search the Library of Congress Name Authority File (NAF) for the accepted style of entry for each name, and enter data exactly as it is found. If the name is not found in NAF, based on the information available it can either be included in this field or recorded in a note field.

Examples:

Century of Progress International Exposition (1933-1934 : Chicago, Ill.)

711 21 ØaCentury of Progress International ExpositionØd(1933-1934 :ØcChicago, Ill.)

730
ADDED ENTRY: UNIFORM TITLE

MARC Tag (Field Name):

730	Added entry: Uniform title		a	Uniform title
			d	Date of treaty
			f	Date of work

Indicators: First   Nonfiling characters   0-9

            Second   Type of added entry   Blank   No information provided

Note: The first indicator is for nonfiling characters. This number can range from 0 to 9, based on the number of characters in the initial article/s to ignore (for example, if a title begins with 'The,' nonfiling characters would be 4, representing 3 characters of the word and the additional space before the next word).

Punctuation/Spacing:

A period or other ending mark of punctuation is the end of this field, unless the field ends with a closing parentheses.

Data Conventions/Comments:

This field contains an added entry for a version of the title that is a uniform title. Use this field to convey uniform title information that is not entered as part of the main entry in the 130 or uniform title in the 240. This field can also be used for added entries for radio and television programs, motion pictures, songs, and anonymous works.

Examples:

The guidelines for this field do not currently include any examples.

740
ADDED ENTRY: UNCONTROLLED RELATED/ANALYTICAL TITLE

MARC Tag (Field Name):

740	Uncontrolled related analytical title	a	Title
		n	Number
		p	Name

Indicators: First   Nonfiling characters   0-9

                      Second   Type of added entry   Blank   No information provided

Note: The first indicator is for nonfiling characters. This number can range from 0 to 9, based on the number of characters in the initial article/s to ignore (for example, if a title begins with 'The,' nonfiling characters would be 4, representing 3 characters of the word and the additional space before the next word).

Punctuation/Spacing:

A period or other ending mark of punctuation is the end of this field, unless the field ends with a closing parentheses.

Data Conventions/Comments:

This field contains a title that varies from the title listed in the 245 (title) field. Use the 246 (variant title) field for varying forms of the title, the 730 (uniform title) field for added uniform titles, and the 740 field for uncontrolled titles. The field is not anticipated to be used with any regularity in the DVL.

GPO Cataloging Guidelines uses this field to record the title of the remote file when a physical form also exists. In this case, they add a 530 note describing the additional form available as well.

Examples:

Estimations of U.S. population in the year 2000
Population estimations 2000.
GPO Cataloging Guidelines example.

245 00 $aEstimations of U.S. population in the year 2000
740 0 $aPopulation estimations 2000.
GPO Cataloging Guidelines example.

773
HOST ITEM ENTRY

MARC Tag (Field Name):

773	Host Item Entry		t	Title
			w	Control number

Indicators: First   Note controller   0   Display note

             Second   Display constant controller   8   No display constant generated

Punctuation/Spacing:

There is no closing mark of punctuation in this field.

Data Conventions/Comments:

This field is used in component part for subunit records to refer to the 'host,' creating
linkage between these various levels. Using the subfields referring to collection level
title and collection level record control number creates a textual and numerical link
between component parts. It is used at the subunit or item level to relate to the collection
level record. It is not used to create a correlation between records for segments of a
digital object and the record for the entire piece. Use the note field (500) for information
about the relationship of digitized segments.

Examples:

Gottscho-Schleisner Collection (Library of Congress) (DLC) 85861312

773 0/ ØtGottscho-Schleisner Collection (Library of Congress)Øw(DLC) 85861312

787
NONSPECIFIC RELATIONSHIP ENTRY

MARC Tag (Field Name):

787	Nonspecific relationship entry	i	Display text
		n	Note
		o	Other item identifier
		t	Title
		w	Record control number

Indicators: First   Note controller   0   Display note

Second   Display constant controller   8   No display constant generated

Punctuation/Spacing:

This field does not end with a mark of punctuation unless the ending word of the field contains a mark of punctuation.

Data Conventions/Comments:

This field provides information about related materials. It can be used in conjunction with the 580 field (linking entry complexity note) when additional detail is required to define the relationship. For example, the field is used to express the linkage between DTIC videorecordings and the related technical report. It is possible that future electronic linkage to technical reports will utilize the 856 field. The field can include a record control number to provide linkage to a system control number, but use of the subfield w has not yet been implemented.

Examples:

Accompanies: Defense Technical Information Center technical report AD-M001 018 Report of the Defense Science Board Task Force on National Imagery and Mapping Agency (with) The Defense Science Board Applications Scenarios (CD-ROM) 00000123
The record control number has been fabricated for this example.

787 08 ØiAccompanies:Øn Defense Technical Information Center technical report ØoAD-M001 018ØtReport of the Defense Science Board Task Force on National Imagery and Mapping Agency (with) The Defense Science Board Applications Scenarios (CD-ROM)Øw00000123
The record control number has been fabricated for this example.

852
LOCATION

MARC Tag (Field Name):

852	Location		a	Location
			b	Sublocation
			e	Address
			n	Country

Indicators: First   Shelving scheme   Blank   No information provided

               Second   Shelving order   Blank   No information provided

Punctuation/Spacing:

There is no closing mark of punctuation in this field.

Data Conventions/Comments:

This field contains information about the location of the material. This includes the name and address of the institution that holds the item or provides access to it. These holding institutions may have the original material used to create the digital file/s or the digital file/s themselves. The data in this field can be defaulted into every record from a particular holding institution.

DTIC is listed in the 852 field for all items with a DTIC AD number.

Examples:

Defense Technical Information Center, 8725 John J. Kingman Road, Fort Belvoir, VA 22060 USA

Air Combat Command Heritage of America Band, 86 Hickory Street, Langley Air Force Base, VA 23665-2192 USA

852 // ØaAir Combat Command Heritage of America Band,Øe86 Hickory Street, Langley Air Force Base, VA 23665-2192ØnUSA

852 // ØaDefense Technical Information Center,Øe8725 John J. Kingman Road, Fort Belvoir, VA 22060ØnUSA

856
ELECTRONIC LOCATION & ACCESS

MARC Tag (Field Name):

856	Electronic location & access	a	Host name
		c	Compression info.
		d	Path
		f	Electronic name
		j	Bits per second
		n	Name of host
		q	Electronic format type
		s	File size
		u	Uniform Resource Identifier
		x	Nonpublic note
		z	Public note
		2	Access method
		3	Materials specified

Indicators:	First	Access method	0	Email
			1	FTP
			3	Dial-up
			4	HTTP
			7	Method specified in Ø2
	Second	Relationship	0	Resource
			1	Version of resource

Note: When the first indicator is coded with a '0' the display constant *Electronic resource:* may be generated by the system; when the second indicator is coded with a '1' the display constant *Electronic version:* may be generated by the system.

Punctuation/Spacing:

There is no closing mark of punctuation in this field.

Data Conventions/Comments:

This field contains information required to identify, locate and retrieve an electronic item. These guidelines document current usage of naming conventions, subfield selection, and field format. As metadata requirements for long-term preservation and access to digital material are refined, the use of this field will be revised. Practice in cases where multiple digital formats are represented remains in development.

Subfield a (host name) is http://dvl.dtic.mil.

Subfield f contains the electronic file name. DVL file names for complex digital objects are composed of the prefix "CX" followed by the item identification number. The file name may or may not include a file extension. Current complex digital object cataloging has not implemented file name in the subfield f because there have been too many files to enter individually in order to provide the level of reference required to be of use.

Examples of DVL file naming conventions are now established for the handle and its subelements, but may receive revision. Subelements of the handle devised for moving image materials included the following:

1. full-length renditions, which are represented by the handle itself (MIADM001018);
2. a segment of the moving image, represented with the use of the underscore sign (MIADM000285_1 for segment 1); and
3. a clip of a segment, represented with the use of underscore signs (MIADM000285_1_clip1 for clip 1 of segment 1).

This pattern will be applied to complex digital objects as necessary. In many cases there is no need to assign handles to subelements since they are directly linked to the primary element and do not need independent access. Handles will only be assigned when direct access to a subelement is required or preferred.

Subfield n (name of host) is defaulted to "Defense Technical Information Center, Fort Belvoir, Virginia."

Subfield q can be used to identify the type of resource identified in the subfield u of the 856 (i.e. text/html or Postscript file).

Subfield s is used to record file size. DVL practice is to enter file size using kilobytes instead of bytes. Current complex digital object cataloging has not implemented file size in the subfield s because there have been too many files to enter individually in order to provide the level of reference required to be of use.

Subfield u contains the Uniform Resource Name, or handle. It begins with the acronym 'hdl:.' The handle in subfield u must be represented with upper case letters. The handle prefix for all digital objects is "CX." This is followed by an item identification number, which can incorporate previously assigned numbering or be assigned arbitrarily.

Subfield x contains nonpublic notes and can be used for administrative information.

Subfield z (Public note) is intended for public display. Sample records use this subfield for information about how the user can access the digital file. This field is repeatable and can be used to communicate information about the file to the user. For example, the *GPO Cataloging Guidelines* contain the following example of subfield z implementation:

856   4 $zAdobe Acrobat reader required $zURL accesses listing of general NCES
publications.

Subfield 3 (Materials specified) is used for a textual description of the aspect of the
electronic resource that is available.

The standard phrasing for this field includes:

> Interactive multimedia
> Sound
> Game
> Document

Information about associated technical reports is provided in the 787 field (Nonspecific
relationship entry). The 787 field includes the link to the electronic file for the technical
report, but the linkage to this electronic file may be migrated to the 856 field in the
future.

Compression information, path, bits per second, and access method are other subfields
that may be implemented in future DVL work.

In cases where there are **multiple electronic files** representing the original item, current
practice is to create a single bibliographic record, providing linkage to the electronic files
through one 856 field that represents the entire digital object.

For further information about the use of this field, review *Guidelines for the Use of Field
856* (revised August 1999), prepared by the Network Development and MARC Standards
Office, Library of Congress (http://lcweb.loc.gov/marc/856guide.html).

Additional MARC fields identified that may contain information about electronic
reproductions include the 533 field (Reproduction note) and the 583 field (Action note).

Examples:

Electronic resource:dvl.dtic.mil Defense Technical Information Center, Fort Belvoir, Virginia hdl:100.1/CXADM001018 Interactive multimedia To begin presentation, start PowerPoint and select File Open, then navigate to the DSB folder. Select the DSB1.ppt file, then under Slideshow, select View Show.

Electronic resource: dvl.dtic.mil Defense Technical Information Center, Fort Belvoir, Virginia hdl:100.1/CX2 Interactive multimedia To begin the presentation, point your browser to http://www.ee.surrey.ac.uk/SSC/H202CONF/index.htm.

856 40 Øadvl.dtic.milØnDefense Technical Information Center, Fort Belvoir, VirginiaØuhdl:100.1/CXADM001018Ø3Interactive multimediaØzTo begin presentation, start PowerPoint and select File Open, then navigate to the DSB folder. Select the DSB1.ppt file, then under Slideshow, select View Show.

856 40 Øadvl.dtic.milØnDefense Technical Information Center, Fort Belvoir, VirginiaØuhdl:100.1/CX2Ø3Interactive multimediaØzTo begin the presentation, point your browser to http://www.ee.surrey.ac.uk/SSC/H202CONF/index.htm.

9XX
EQUIVALENCE AND CROSS-REFERENCE FIELDS

Field Name (MARC Tag):

9XX   Equivalence and cross-reference fields   a   Note

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

None.

Data Conventions/Comments:

9XX fields could be defined to incorporate structural and administrative metadata that does not fit into any established MARC field. Local fields can contain information needed for long-term management of digital materials.

For example, The University of Rochester Libraries created Guidelines for Coding 999 (Local Internet Description) Field (see http://128.151.244.128/cat/code999.htm). They use their local field to facilitate access to remote electronic resources. The field has been designed to have a single subfield, although it is possible to enter four information elements there: a resource designation term, a university cataloging agency, the word Internet, and a temporary designation.

Any implementation of a local field will be documented in these guidelines to provide standardization of DVL practice. Design and format of data entry in these fields is to be defined by DVL project managers.

Examples:

The guidelines for this field do not currently include any examples.

952
CATALOGER'S NOTE

MARC Tag (Field Name):

952   Cataloger's note   a   Note

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

A period or other ending mark of punctuation is always at the end of this field.

Data Conventions/Comments:

This field is used to convey information not intended for use by the public. Examples include information about the condition of the digital object, or a listing of sources consulted in compiling notes.

This field can be used to record in-house information noting citations to publications and other resources used to compile the catalog record. Although it is not necessary to document the origin of all cataloger-supplied information, the DVL includes nonpublic notes related to sources.

Examples:

Title and date supplied by:

Date based on…

Digital file viewed by JG.

LCCN 99183603 is bib record describing conference publication.

952 // ØaTitle and date supplied by:

952 // ØaDate based on…

952 // ØaDigital file viewed by JG.

952 // ØaLCCN 99183603 is bib record describing conference publication.

969
SHORT TERM TEMPORARY NOTE

MARC Tag (Field Name):

969   Short term temporary note   a   Note

Indicators:

Indicator codes are not defined for this field.

Punctuation/Spacing:

None.

Data Conventions/Comments:

This field is used to record information during the process of cataloging and review, such as comments related to the record or reminders about additional work to be performed before the record is complete. The field should not contain information after cataloging is complete and verified. No standard punctuation or formatting is necessary in this temporary field.

This field can be used to indicate the status of the record during cataloging. Use standard terminology to describe the status of the record, like "In progress" and "Verified."

Examples:

Fields to review: Copyright 1997.

Record status: In progress.

Record status: Verified.

969 // ØaFields to review: Copyright 1997.

969 // ØaRecord status: In progress.

969 // ØaRecord status: Verified.

985
LOCAL RECORD HISTORY

<u>MARC Tag (Field Name):</u>

985	Local record history	a	Agency
		e	Project name

<u>Indicators:</u>

Indicator codes are not defined for this field.

<u>Punctuation/Spacing:</u>

There is no closing mark of punctuation in this field.

<u>Data Conventions/Comments:</u>

This field is a Library of Congress in-house field used to identify the creator of the records and a project code. It can be used to distinguish the various projects within the DVL, and link the record with the appropriate project. The codes used in the example below are possible acronyms.   They can be revised to better serve DVL needs. For example, it may be preferable to provide a textual description or title for each project instead of using coded descriptions.

To date, the codes used represent the format of the item (for example, do for digital object, mi for moving image, aud for audio, and ph for photo), but codes could be established that specify particular projects within a format (for example, using mi-cm for Carnegie-Mellon or mi-dtic for DTIC materials).

<u>Examples:</u>

dtic/do dvl

985 // Øadtic/doØedvl

SAMPLE RECORDS

```
OCLC:  DTIC-000011    Rec stat:  n  Entrd:  001227  Used:  20010607
Type:  m  Elvl:  7      Srce:  d      Audn:  |     Ctrl:        Lang:  eng
Blvl:  m TMat:  TCom:  i  GPub:  f      AccM:      MRec:         Ctry:  xxu
Desc:  a Time/Comp:      Tech:     Dtst:  e  Dates: 1998,11|| LTxt(sound):
 COM:c SMD:o CL:c DIM:g SND:a IMBD:      NFF:m QAT:a SRC:c COMP:m REFQ:a
 COM:m SMD:  CL:  PR:  SEP:  MDS:  WD:  CONF:  PRE:  +/-:  GEN:  BSE:
RCL: KND:  DET:  COM:  INSDATE:
 COM:g SMD:  OR:  CL:   PRS:   SEP:   MDS:   WD:   SSP:
 COM:k SMD:  OR:  CL:   PRS:   SSN:           COM:t  SMD:
 COM:v SMD:  OR:  CL:   VF:  SEP:   MDS:   WD:   CONF:
 COM:s SMD:OR:SPD: SND:GRV:DIM:   WID:TC:   KD:   KM:   KC: RC:CAP:
035    ØaCXADM000853
037    ØaADM000853 ØbViFbDTIC Øc(CD-ROM)
099    ØaAD-M000 853
245 00 ØaWorkshop on "Dynamics in quantum structures far from
equilibrium" Øh[interactive multimedia] : Øb11, 12 July 1997, UC Santa
Barbara.
246 3  ØiTitle from report documentation form: ØaDynamics in Quantum
Structures Far from Equilibrium (CD-ROM)
256    ØaComputer interactive multimedia.
260    ØaSanta Barbara, Cal. : ØbUniversity of California, Quantum
Institute ; ØaFort Belvoir, VA. : ØbDefense Technical Information Center
[distributor], Øc1998 Nov.
300    Øa1 computer optical disc (CD-ROM) : Øbsd., col. ; Øc4 3/4 in.
500    ØaTitle from title screen of opening page.
500    ØaConference organized by S.J. Allen (University of California,
Santa Barbara [UCSB]) and Hiroyuki Sakaki (University of Tokyo);
sponsored by the Quantum Transition Project (Japan Science and
Technology Corp.), QUEST (National Science Foundation Science and
Technology Center at UCSB), the DoD MFEL Program, and the Quantum
Institute (UCSB).
500    ØaContains a file of Powerpoint presentations organized into
separate speaker files, in addition to a Photo Album documenting the
conference with a table of contents and 21 slides of photographs with
corresponding captions.
538    ØaSystem requirements: Windows, Adobe Acrobat 3.0, Excel 5.0 or
later, Netscape Navigator 3.x or higher or Microsoft Internet Explorer
3.x or higher.
538    ØaMode of access: Available electronically via Internet.
516    ØaInteractive multimedia
520 8  Øa60 researchers attended this two day workshop, covering spin
injection; coherent control, Terahertz electro-optics, dynamics in
microcavities, and high field transport in quantum structures.
540    ØaReproduction rights may be restricted through copyright.
556 8  ØaDocumentation in "readme" file.
611 24 ØaDynamics in Quantum Structures Far from Equilibrium Ød(July
1997 :ØcSanta Barbara, Calif.)
650  0 ØaNanostructures ØvInteractive multimedia.
650  0 ØaQuantum theory ØxCongresses.
650  0 ØaElectrooptics.
650  0 ØaQuantum electronics.
700 1  ØaSakaki, Hiroyuki, Ød1944-
710 2  ØaUniversity of California, Santa Barbara.
```

```
710 1  ØaUnited States. ØbOffice of Naval Research, Øesponsor.
852    ØaDefense Technical Information Center Øe8725 John J. Kingman
Road, Fort Belvoir, VA 22060 ØnUSA
856 40 Øadvl.dtic.mil ØnDefense Technical Information Center, Fort
Belvoir, Virginia Øuhdl:100.1/CXADM000853 Ø3Interactive multimedia ØzTo
begin the presentation, point your browser to the file index.htm in the
Dynwork folder.
969    ØaFields to review: Name conflict for conference organizer S.J.
Allen (could be a 700).
969    ØaRecord status: In progress.
985    Øadtic/do Øedvl
900    Øa2000/12/27 Øcsuper Øm2001/06/07 Øusuper
```

```
OCLC:   DTIC-000014      Rec stat:   n  Entrd:   010508   Used:   20010607
Type:   m      Elvl:  7      Srce:  d      Audn:  |      Ctrl:      Lang:  eng
Blvl:   m TMat:      TCom: i  GPub:  f      AccM:        MRec:   Ctry:  xxu
Desc:   a Time/Comp:      Tech:     Dtst:   e  Dates:  2000,0512 LTxt(sound):
 COM:c  SMD:o CL:c DIM:g SND:a IMBD:      NFF:m  QAT:a  SRC:c COMP:m REFQ:a
 COM:m  SMD:  CL:  PR:  SEP:  MDS:  WD:  CONF:  PRE:  +/-:  GEN:  BSE:
RCL:  KND:  DET:  COM:  INSDATE:
 COM:g  SMD:  OR:  CL:  PRS:  SEP:  MDS:  WD:  SSP:
 COM:k  SMD:  OR:  CL:  PRS:  SSN:      COM:t  SMD:
 COM:v  SMD:  OR:  CL:  VF:  SEP:  MDS:  WD:  CONF:
 COM:s  SMD:  OR: SPD: SND:GRV: DIM: WID: TC: KD: KM: KC:  RC:    CAP:
035     ØaCXADM001149
037     ØaADM001149 ØbViFbDTIC Øc(CD-ROM)
099     ØaAD-M001 149
245 02 ØaA Multimodal virtual environment for ship familiarization Øh
[interactive multimedia].
246 3  ØiTitle from report documentation form: ØaA Multimodal Virtual
Environment For Ship Familiarization (CD-ROM).
256     ØaComputer interactive multimedia.
260     ØaWashington, D.C. : ØbNaval Research Laboratory ; ØaFort
Belvoir, VA. : ØbDefense Technical Information Center [distributor],
Øc2000 May 12.
300     Øa1 computer optical disc (CD-ROM) : Øbsd., col. ; Øc4 3/4 in.
500     ØaTitle from title page.
500     ØaContains two QuickTime movie demonstrations of the interface
(short.mov (00:00:10) and long.mov (00:02:29)).
500     ØaAuthors are David L. Tate (Navy Technology Center for Safety
and Survivability, Chemistry Division), Stephanie S. Everett, Tucker
Maney, and Kenneth Wauchope (all of the Navy Center for Applied Research
in Artificial Intelligence, Information Technology Division).
520 8  ØaDescribes the prototype development of a virtual reality tool
to familiarize sailors with a ship. The tool uses speech pattern
recognition, natural language processing, and route planning to create
an automated system to use as a wayfinding aid. Prototype uses a model
of the Shadwell. User interface supports both a desktop monitor and
head-mounted display.
538     ØaSystem requirements: Windows 3.1, 95 or NT; Adobe Acrobat,
QuickTime software; audio-video driver.
538     ØaMode of access: Available electronically via Internet.
516     ØaInteractive multimedia
540     ØaReproduction rights may be restricted through copyright.
650  0 ØaVirtual reality ØzUnited States ØvInteractive multimedia.
650  0 ØaAutomatic speech recognition ØzUnited States.
650  0 ØaShip models ØzUnited States.
650  0 ØaNatural language processing (Computer science) ØzUnited States.
650  0 ØaMarine engineering ØzUnited States.
710 2  ØaNaval Research Laboratory (U.S.)
852     ØaDefense Technical Information Center Øe8725 John J. Kingman
Road, Fort Belvoir, VA 22060 ØnUSA
856 40 Øadvl.dtic.mil ØnDefense Technical Information Center, Fort
Belvoir, Virginia Øuhdl:100.1/CXADM001149 Ø3Interactive multimedia ØzTo
begin the presentation, point to FR9939.pdf.
969     ØaRecord status: In progress.
985     Øadtic/do Øedvl
900     Øa2001/05/08 Øcsuper Øm2001/06/07 Øusuper
```

REQUIRED AND OPTIONAL DATA ELEMENTS
COMPLEX DIGITAL OBJECTS
MARC FIELDS

Required fields appear in bold typeface.

MARC TAG	FIELD NAME	SUBFIELD and SUBFIELD NAME	
LEADER			
001	**Control Number**		**System generated number**
005	**Date and time of latest transaction**		
006	Additional materials fixed field		
007	**Physical description fixed field**		
008	**Fixed length data elements**		
010	LC control number	a	LCCN
024	Other standard identifier	a	Number or code
		d	Additional codes
		z	Invalid number
028	Publisher number	a	Publisher number
		b	Source
033	Date/time and place of event	a	Formatted date/time
035	**System control number**	**a**	**Number**
037	Source of acquisition	a	Stock number
		b	Source of number
		c	Terms
040	Cataloging source	a	Original agency
		d	Modifying agency
		e	Description conventions
082	Dewey Decimal call number	a	Classification number
		b	Item number
088	Report number	a	Report number
099	Local call number	a	Local call no.
1XX	**Main entry: One Field Only**		
100	Personal name	a	Personal name
		b	Numeration
		c	Titles
		q	Fuller form of name
		d	Dates
		e	Relator term
110	Main entry: Corporate name	a	Corporate name
		b	Subordinate units
		e	Relator term

MARC TAG	FIELD NAME	SUBFIELD and SUBFIELD NAME	
111	Main entry: Meeting name	a	Meeting name
		n	Number of meeting
		d	Date of meeting
		c	Location of meeting
		e	Subordinate unit
130	Main entry: Uniform title	a	Uniform title
240	Uniform title	a	Uniform title
245	**Title**	**a**	**Title**
		b	Remainder of title
		c	Remainder of transcription
		h	**Medium**
		n	Number of part
		p	Name of part
246	Variant title	a	Title
		b	Remainder of title
		i	Display text
250	Edition statement	a	Edition statement
256	Computer file characteristics	a	Characteristics
260	**Publication (Date)**	a	Place of publication
		b	Publisher
		c	**Date of execution**
		e	Place of manufacture
		f	Manufacturer
300	Physical description	a	Extent
		b	Other physical details
		c	Dimensions
		e	Accompanying material
351	Organization & arrangement	a	Organization
		b	Arrangement
440	Series statement/Added entry (Title)	a	Title
		n	Number of part/section
		p	Name of part/section
		v	Volume number
500	General note	a	General note
505	Formatted contents note	a	Note
506	Restrictions on access note	a	Terms governing access
		b	Jurisdiction
		d	Authorized users
		e	Authorization
508	Creation/production credits note	a	Note
510	Citation/references note	a	Name of source
		c	Location in source
516	Type of computer file or data note	a	Note

MARC TAG	FIELD NAME	SUBFIELD and SUBFIELD NAME	
520	Summary, abstract, scope note	a	Summary note
530	Additional physical form note	a	Note
		b	Availability source
		c	Availability conditions
		d	Order number
533	Reproduction note	a	Type of reproduction
		b	Place of reproduction
		c	Responsible agency
		d	Date
		e	Physical description
		f	Series statement
		m	Date of publication
		n	Note about reproduction
		7	Fixed length elements
535	Location of originals/duplicates note	a	Custodian
		b	Postal address
		c	Country
		d	Telecommunication address
		3	Materials specified
538	System details note	a	Note
540	Terms governing use & reproduction	a	Terms note
		b	Jurisdiction
		c	Authorization
		d	Authorized users
541	Immediate source of acquisition	c	Method of acquisition
		a	Source of acquisition
		d	Date of acquisition
		e	Accession number
545	Biographical/Historical note	a	Note
546	Language note	a	Note
555	Cumulative index/finding aid note	a	Note
556	Information about documentation note	a	Note
562	Copy and version identification note	a	Identifying markings
		b	Copy identification
		c	Version identification
		d	Presentation format
		3	Materials specified
567	Methodology note	a	Note
580	Linking entry complexity note	a	Note
581	Publications note	a	Note

MARC TAG	FIELD NAME	SUBFIELD and SUBFIELD NAME	
583	Action note	a	Action
		b	Action identification
		c	Time of action
		d	Action interval
		f	Authorization
		i	Method of action
		j	Site of action
		k	Action agent
		l	Status
		x	Nonpublic note
		z	Public note
600	Subject added entry: Personal	a	Personal name
		b	Numeration
		c	Titles
		q	Fuller form of name
		d	Dates
		x	General subdivision
		z	Geographic subdivision
610	Subject added entry: Corporate	a	Corporate name
		b	Subordinate units
		x	General subdivision
		y	Chronological subdivision
		z	Geographic subdivision
611	Subject added entry: Meeting	a	Meeting name
		n	Number of meeting
		d	Date of meeting
		c	Location of meeting
		e	Subordinate unit
		x	General subdivision
630	Subject added entry: Uniform title	a	Uniform title
		v	Form subdivision
650	Subject added entry: Topical term	a	Topical term
		x	General subdivision
		v	Form subdivision
		y	Chronological subdivision
		z	Geographical subdivision
		2	Source of heading
651	Subject added entry: Geographic	a	Topical term
		x	General subdivision
		y	Chronological subdivision
653	Subject added entry: Uncontrolled	a	Index term

MARC TAG	FIELD NAME	SUBFIELD and SUBFIELD NAME	
655	Subject added entry: Form/Genre	a	Form/Genre
		v	Form subdivision
		x	General subdivision
		y	Chronological subdivision
		2	Source of term
700	Added entry: Personal name	a	Personal name
		b	Numeration
		c	Titles
		q	Fuller form of name
		d	Dates
		e	Relator term
710	Added entry: Corporate name	a	Corporate name
		b	Subordinate units
		e	Relator term
711	Added entry: Meeting name	a	Meeting name
		n	Number of meeting
		d	Date of meeting
		c	Location of meeting
		e	Subordinate unit
730	Added entry: Uniform title	a	Uniform title
		d	Date of treaty
		f	Date of work
740	Added entry: Variant title	a	Title
		n	Number
		p	Name
773	Host item entry	t	Title
		w	Control number
787	Nonspecific relationship entry	i	Display text
		n	Note
		o	Other item ID
		t	Title
		w	Record control number
852	**Location**	**a**	**Location**
		b	**Sublocation**
		e	**Address**
		n	**Country**
856	**Electronic location and access**	**a**	**Host name**
		c	**Compression info.**
		d	**Path**
		f	**Electronic name**
		j	**Bits per second**
		n	**Name of location of host**
		q	**Electronic format type**

MARC TAG	FIELD NAME	SUBFIELD and SUBFIELD NAME	
		s	**File size**
		u	**URI**
		x	**Nonpublic note**
		z	**Public note**
		2	**Access method**
		3	**Materials specified**
9XX	Equivalence and cross reference fields		
952	Cataloger's note	a	Note
969	Short term temporary note	a	Note
985	**Local record history**	**a**	**Agency**
		e	**Project name**

END OF FIELD PUNCTUATION

LEADER	None
0XX	None
1XX	Period unless an open life date with no relator term or closing parentheses
240	None, unless ending text contains initial letters or an abbreviation
245	Period
246	None, unless ending text contains initial letters or an abbreviation
250-256	Period or other closing punctuation
257	Period
260	Period or other closing punctuation
300	Period or other closing punctuation
306	None, unless ending text contains initial letters or an abbreviation
351	Period or other closing punctuation
440	None, unless ending text contains initial letters or an abbreviation
500	Period (even when closing parentheses or bracket is used) or other ending mark of punctuation
505	Period when complete or partial contents, but no period when incomplete contents.
506	Period or other closing punctuation
508	Period or other closing punctuation
510	None
516	None, unless ending text contains initial letters or an abbreviation
520-581	Period or other closing punctuation
583	None, unless ending text contains initial letters or an abbreviation
600	Period, unless an open life date
610	Period or other closing punctuation, unless field ends with closing parentheses
611	Period or other closing punctuation
630	Period or other closing punctuation
650	Period or other closing punctuation, unless field ends with closing parentheses
651	Period or other closing punctuation
653	None
655	Period or other closing punctuation. None if Ø2 ends the field
700	Period unless an open life date with no relator term or closing parentheses
710	Period or other closing punctuation
711	Period or other closing punctuation, unless field ends with closing parentheses
730-740	Period or other closing punctuation
773	None
787	None, unless ending text contains initial letters or an abbreviation
8XX-9XX	None
952	Period or other closing punctuation

BIBLIOGRAPHY FOR CATALOGING DIGITAL OBJECTS
Revised 11-21-2000[14]

A. PUBLICATIONS

1. *Anglo-American Cataloging Rules.* 2nd ed. Chicago : American Library Association, 1988 revision and 1993 amendments.

2. Betz, Elisabeth W., comp. *Graphic Materials: Rules for Describing Original Items and Historical Collections* (GM). Washington, D.C. : Library of Congress, 1982.

3. Hsieh-Yee, Ingrid. *Organizing Audiovisual and Electronic Resources for Access: A Cataloging Guide.* Englewood, CO : Libraries Unlimited, Inc., 2000.

4. Hensen, Steven L., comp. *Archives, Personal Papers, and Manuscripts: A Cataloging Manual for Archival Repositories, Historical Societies, and Manuscript Libraries.* (APPM) 2nd ed. Chicago : Society of American Archivists, 1989.

5. Hill, Linda L. and Greg Janee et. al. Collection Metadata Solutions for Digital Library Applications" in the *Journal of the American Society for Information Science.* 50 (13):1169-1181, Nov. 1999.

6. Hunter, Gregory S. *Preserving Digital Information: A How-To-Do-It Manual.* New York : Neal-Schuman Publishers, Inc., 2000.

7. Jimerson, Randall C. *American Archival Studies: Readings in Theory and Practice.* Chicago : Society of American Archivists, 2000.

8. Library of Congress. *Library of Congress Rule Interpretations.* Washington, D.C. : Library of Congress, 1998 cumulation.

9. Library of Congress. *Library of Congress Subject Cataloging Manual: Subject Headings.* Washington, D.C. : Library of Congress, 199-.

10. Library of Congress. *Library of Congress Subject Headings*. Washington, D.C. : Library of Congress, 23rd edition, 2000.

11. Library of Congress. *MARC21 Format for Authority Data: Including Guidelines for Content Designation.* Washington, D.C. : Library of Congress, 2000.

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[14] See in-house documentation titled "Report on Metadata Schemas, Tools and Projects With Recommendations For DVL Best Practices" for additional references.

12. Library of Congress. *MARC 21 Format for Bibliographic Data.* Washington, D.C. : Library of Congress, 1999.

13. Matters, Marion. *Oral History Cataloging Manual.* Chicago : Society of American Archivists, 1995.

14. Smiraglia, Richard P. *Describing Music Materials: A Manual for Descriptive Cataloging of Printed and Recorded Music, Music Videos, and Archival Music Collections: For Use With AACR2 and APPM.* Lake Crystal, Minn. : Soldier Creek Press, 1997.

15. *Thesaurus for Graphic Materials* (lctgm). 2nd ed. Washington, D.C. : Library of Congress, 1995, 2 vol.

B. INTERNET SITES FOR DIGITAL OBJECT COLLECTIONS AND CATALOGING

COMPUTER FILE CATALOGING GUIDELINES

1. Boston University Law Library Technical Services Procedures: Cataloging Internet Resources. http://www.bu.edu/lawlibrary/tech/procedures/internetcat.htm

2. Cataloguing Internet Resources: Application of AACR2R. University of Toronto. http://www.fis.utoronto.ca/inforum/cir/aacr2r.htm

3. Cataloging Procedures for Networked Electronic Resources. Editor: Jim LeBlanc. Cornell Library. http://www.library.cornell.edu/voyager/Bibs/Ecat/e-cat1-2.html

4. Cataloging Remote Access Computer File Publications. Princeton University Library Cataloging Documentation. http://infoshare1.princeton.edu/katmandu/comp/elecfil.html

5. Computer File Processing. Serials Cataloging Team. Penn State University Libraries. http://www.libraries.psu.edu/iasweb/catsweb/serials/cfprocess.html

6. Computer Files/Interactive Multimedia. Trinity College Library Cataloging Manual. http://trincoll.edu/depts/libtech/catman/computer.html

7. CONSER Cataloging Manual. Module 31. Remote Access Computer File Serials. By Melissa Beck, et. al., University of California, Los Angeles. http://www.loc.gov/acq/conser/module31.html

8. Draft Guidelines for Cataloging CD-ROMs at Yale, March 1, 1999. Yale University Library. http://www.library.yale.edu/cataloging/netinfo/cdroms.htm

9. Electronic Resources Cataloging. Brown University Library Cataloging Services. http://www.brown.edu/Facilities/University_Library/Catalog/ElectRes.html

10. Electronic Resources Cataloging: Policies. Massachusetts Institute of Technology. MIT Libraries Cataloging Oasis. http://macfadden.mit.edu:9500/colserv/cat/erescat/erespol.htm

11. GPO [Government Printing Office] Cataloging Guidelines, Computer Files No. 1A. Federal Depository Library Program (FDLP) Desktop. http://www.access.gpo.gov/su_docs/fdlp/cip/cgcomp01.html

12. Interactive Multimedia: Cue Sheet. University of California, Los Angeles. Charles E. Young Research Library. Serials Cataloging Section. http://wwwtest.library.ucla.edu/libraries/cataloging/sercat/specproc/cdrom_interactive.htm

DIGITAL LIBRARY PROJECTS

1. Alexandria Digital Library Project. http://alexandria.sdc.ucsb.edu/

2. CEDARS. Consortium of University Research Libraries (CURL) Project, with the United Kingdom Office for Library and Information Networking (UKOLN). http://www.leeds.ac.uk/cedars/

3. Colorado Digitization Project. http://coloradodigital.coalliance.org/

4. Digital Performance Archive. http://art.ntu.ac.uk/dpa

5. Higher Education Digitisation Service (HEDS). Joint Information Systems Committee and University of Hertfordshire. http://heds.herts.ac.uk/resources/resources.html

6. Indiana University Electronic Records Projects. http://www.indiana.edu/~libarche/

7. International Research on Permanent Authentic Records in Electronic Systems (InterPARES) Project. http://www.interpares.org

8. Library of Congress. American Memory Home Page. http://lcweb2.loc.gov/ammem/amhome.html

9. Library of Congress. American Memory Technical Notes: by Type of Material. http://lcweb2.loc.gov/ammem/dli2/html/document.html

10. Library of Congress. National Digital Library Program (NDLP). http://lcweb2.loc.gov/ammem/dli2/html/lcndlp.html

11. Multimedia Access for Enterprises across Networks and Domains (MAENAD). Distributed Systems Technology Centre. http://archive.dstc.edu.au/RDU/staff/jane-hunter/Maenad.html and http://www.dstc.edu.au/RDU/maenad.html

12. Making of America I. http://moa.umdl.umich.edu/

13. Making of America II Testbed Project. http://sunsite.berkeley.edu/MOA2/

14. National Archival Information Locator (NAIL). http://www.nara.gov/nara/nail.html

15. National Imagery and Mapping Agency. http://www.ismc.nima.mil/vwg

16. National Library of Australia. PANDORA Archive (Preserving and Accessing networked Documentary Resources of Australia). http://pandora.nla.gov.au/pandora/

17. Networked European Deposit Library (NEDLIB). http://www.konbib.nl/nedlib/

18. Performing Arts Data Service (PADS). Imagination Pilot Project Collection. University of Glasgow, Scotland. http://www.pads.ahds.ac.uk

19. Preserving Access to Digital Information (PADI). National Library of Australia. http://www.nla.gov.au/padi/

20. Stanford Digital Library Technologies Project. http://www-diglib.stanford.edu/

DIGITAL LIBRARY RESEARCH

21. Arms, Caroline R. *Keeping Memory Alive: Practices for Preserving Digital Content at the National Digital Library Program of the Library of Congress.* RLG DigiNews, June 15, 2000. http://www.rlg.org/preserv/diginews/diginews4-3.html

22. Arms, William Y., *Preservation of Scientific Serials: Three Current Examples.* http://www.press.umich.edu/jep/-5-02/arms.html

23. Arms, William Y. and Christophe Blanchi et. al. *An Architecture for Information in Digital Libraries.* D-Lib Magazine, February 1997. http://www.dlib.org/dlib/february97/cnri/02arms1.html

24. Bullock, Alison. *Preservation of Digital Information: Issues and Current Status.* April 1999. http://www.nlc-bnc.ca/publications/netnotes/notes60.htm

25. Day, Michael. *Issues and Approaches to Preservation Metadata.* (CEDARS). http://www.rlg.org/preserv/joint/day.html

26. Duff, Wendy and Sue McKemmish. *Metadata and ISO 9000 Compliance.* Records Continuum Research Group. http://www.sims.monash.edu.au/rcrg/publications/smckduff.html

27. Gilliland-Swetland, Anne J. *Enduring Paradigm, New opportunities: The Value of the Archival Perspective in the Digital Environment.* Council on Library and Information Resources, February 2000. http://www.clir.org/pubs/reports/pub89/contents.html

28. Hodge, Gail. *Best Practices for Digital Archiving.* D-Lib Magazine, January 2000. http://www.dlib.org/dlib/january00/01hodge.html

29. Library of Congress. Conference on Bibliographic Control in the New
    Millennium. http://lcweb.loc.gov/catdir/bibcontrol

30. Milstead, Jessica and Susan Feldman. *Metadata: Cataloging by Any Other Name*
    and *Metadata Projects and Standards*. Online, January 1999.
    http://www.onlineinc.com/onlinemag/OL1999/milstead1.html

31. Making of America II Testbed Project: A Digital Library Service Model.
    December 1999. Council on Library and Information Resources (CLIR)
    publication 87. http://www.clir.org/pubs/abstract/pub87abst.html

32. Payette, Sandra and Christophe Blanchi et. al. *Interoperability for Digital Objects
    and Repositories: The Cornell/CNRI Experiments.* D-Lib Magazine, May 1999.
    http://www.dlib.org/dlib/may99/payette/05payette.html

33. van der Werf-Davelaar, Titia. *Long-Term Preservation of Electronic
    Publications.* (NEDLIB)
    http://www.dlib.org/dlib/september99/vanderwerf/09vanderwerf.html

DIGITAL LIBRARY RESOURCES

34. CONSER Working Group: Bookmark File of Policies.
    http://wwwtest.library.ucla.edu/libraries/cataloging/sercat/conserwg/index2.html

35. Digitization Resources Online. University of Southern Mississippi.
    http://www.lib.usm.edu/%7Espcol/digi/online.htm

36. Hsieh-Yee, Ingrid. Cataloging and Metadata Resources: A Companion Site for
    Organizing Audiovisual and Electronic Resources for Access.
    http://slis.cua.edu/ihy/catmeta.htm

37. International Federation of Library Associations and Institutions (IFLA).
    Electronic Collections and Services. http://www.ifla.org/II/index.htm

38. New Horizons in Scholarly Communication. Building and Organizing
    Collections. Librarians Association of the University of California.
    http://libweb.ucsc.edu/scomm/collect.html

39. Northeast Document Conservation Center. Handbook for Digital Projects: A
    Management Tool for Preservation and Access. 1st ed. Maxine K. Sitts, ed., 2000.
    http://www.nedcc.org/digital/dighome.htm

40. Southwest Electronic Text Center. University of Arizona Library. Electronic Text
    Centers. http://www.library.arizona.edu/swetc/other.html

41. TPOT: Technical Services Automated Systems. Cataloging and Metadata.
http://tpot.ucsd.edu/Autosys/metacat.html

42. UNESCO Archives Portal. http://www.unesco.org/websorld/portal_archives

METADATA

43. American Library Association (ALA). Committee on Cataloging: Description and
Access (CC:DA). Task Force on Metadata, Summary Report, June 1999.
http://www.ala.org/alcts/organization/ccs/ccda/tf-meta3.html

44. ALA. CC:DA. Task Force on Metadata and the Cataloging Rules, Final Report,
August 21, 1998. http://www.ala.org/alcts/organization/ccs/ccda/tf-tei2.html

45. ALA. CC:DA. Task Force on the Harmonization of ISBD(ER) and AACR2. Final
Report (Penultimate Draft), drafted 23 January 1999; revised 14 June 1999 with
additional material. http://www.library.yale.edu/cataloging/aacrer/tf-harm21.htm

46. Archiving Metadata Forum (AMF). Proceedings of June 8, 2000.
http://www.archiefschool.nl/metadata

47. Categories for the Description of Works of Art (CDWA). Art Information Task
Force. CDWA and Other Metadata Standards.
http://www.getty.edu/gri/standard/cdwa/index.htm

48. Dublin Core Metadata Initiative. http://purl.org/DC/

49. Encoded Archival Description (EAD) Roundtable. Society of American
Archivists. EAD Help Pages. http://jefferson.village.virginia.edu/ead/

50. Getty Standards Program. Introduction to Metadata: Pathways to Digital
Information. http://www.getty.edu/gri/standard/intrometadata

51. Getty Standards Program. Metadata Standards Crosswalk.
http://www.getty.edu/gri/standard/intrometadata/crosswalk.htm

52. IFLA. Digital Libraries: Metadata Resources. http://www.ifla.org/II/metadata.htm

53. Library of Congress. AV Metadata Home Page.
http://lcweb.loc.gov/rr/mopic/avprot

54. Library of Congress. Digital Repository Development. Core Metadata Elements.
http://lcweb.loc.gov/standards/metadata.html

55. National Library of Australia. Preservation Metadata for Digital Collections
(draft). http://www.nla.gov.au/preserve/pmeta.html

56. NORDIC Metadata Projects. http://www.lib.helsinki.fi/meta/

57. Online Computer Library Center (OCLC). Cooperative Online Resource Catalog (CORC). http://www.oclc.org/oclc/corc

58. Research Libraries Group (RLG) Working Group on Preservation Issues of Metadata. http://www.rlg.org/preserv/presmeta.html

59. Resource Description Framework (RDF). http://www.w3.org/RDF

60. Text Encoding Initiative (TEI) Home Page. http://www.uic.edu/orgs/tei/

61. University of Pittsburgh. Functional Requirements for Evidence in Recordkeeping Project. http://www.lis.pitt.edu/~nhprc/

62. University of Virginia Electronic Text Center. About Standard Generalized Markup Language (SGML). http://etext.lib.virginia.edu/sgml.html

63. VRA Core. http://www.gsd.harvard.edu/~staffaw3/vra/vracore3.htm

64. W3C (World Wide Web Consortium). Extensible Markup Language (XML). http://www.w3.org/XML/

STANDARDS

65. Art and Architecture Thesaurus (AAT). The Getty Art History Information Program. http://shiva.pub.getty.edu/aat_browser/

66. Cataloging Electronic Resources: OCLC-MARC Coding Guidelines. Online Computer Library Center : revised July 28, 1999 by Jay Weitz. http://www.oclc.org/oclc/cataloging/type.htm

67. Cataloging Internet Resources: A Manual and Practical Guide. 2nd ed. Nancy B. Olson, ed. Online Computer Library Center : c1997. http://www.purl.org/oclc/cataloging-internet

68. Computer Interchange of Museum Information (CIMI). Standards Page. http://www.cimi.org/standards/index.html

69. ISBD(ER): International Standard Bibliographic Description for Electronic Resources. http://www.ifla.org/VII/s13/pubs/isbd.htm

70. Library of Congress. Cataloging Policy and Support Office. *Draft Interim Guidelines for Cataloging Electronic Resources.* http://lcweb.loc.gov/catdir/cpso/dcmb19_4.html

71. Library of Congress. Network Development and MARC Standards Office. *Guidelines for the Use of Field 856*. Revised August 1999. http://lcweb.loc.gov/marc/856guide.html

72. Library of Congress. Network Development and MARC Standards Office. MARC Standards Home Page. http://lcweb.loc.gov/marc/

73. Library of Congress. Program for Cooperative Cataloging (PCC) Task Force on Multiple Manifestations of Electronic Resources. http://lcweb.loc.gov/catdir/pcc/tgmuler.html

74. Library of Congress. *Thesaurus for Graphic Materials* (lctgm) http://lcweb.loc.gov//rr/print/tgm1/toc.html

75. Museum Computer Network.. Standards Page. http://www.mcn.edu/stand_subscribe.taf

76. UNIMARC Manual. International Federation of Library Associations and Institutions (IFLA). Universal Bibliographic Control and International MARC Core Programme. http://www.ifla.org/VI/3/p1996-1/sec-uni.htm

77. Virtual Library of Virginia (VIVA). Cataloging Guidelines for Electronic Collections, July 1, 1998. http://viva.lib.virginia.edu/~ejs7y/vivacat/marc.htm